

DESERT VALLEY COMPANY

**7030 GENTRY ROAD
CALIPATRIA, CALIFORNIA 92233**

October 30, 2019

Mr. Frank Gonzalez, P.E., A.E.O.
California Regional Water Quality Control Board
73-720 Fred Waring Drive, Suite 100
Palm Desert, California 92260

**Subject: Desert Valley Company Class II Solid Waste Management Facility
Quarterly Detection Monitoring Report for July - Sept 2019
Regional Board WDID No. 7A 13 2197 001
Board Order No. R7-2016-0016**

Dear Mr. Gonzalez:

Attached is the Quarterly Detection Monitoring Report as required by the Waste Discharge Requirements Board Order (R7-2016-0016) for the Desert Valley Company monofill facility. This quarterly monitoring report has received appropriate technical review and approval by a California Registered Professional Engineer/Geologist.

As noted in the transmittal for the first quarter of 2019:

Due to the discovery of storm water run-off inside the Z-2 vadose zone monitoring well, CalEnergy submitted the “Vadose Well Z-2 Repair Work Plan” on November 9, 2018. The corrective actions proposed in the plan were implemented and summarized in a communication submitted to the RWQCB on January 28, 2019, in which CalEnergy requested closure of the event. By May 30, 2019, the majority of the liquid had been removed using a rented bladder pump. The pump was placed in the bottom of the Z-2 vent pipe removing all but a 3 foot column of water which is the length of the pump itself. Third quarter monitoring indicates that the last three feet of water remain at the bottom of the tube.

"I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations".

October 30, 2019
Board Order #R7-2016-0016

If you have any questions, please contact Anetha Lue at (760) 348-4275 or by e-mail at Anetha.Lue@calenergy.com.

Sincerely,



10/29/19
Leslie Sarien
General Manager

Attachments

cc: Zakary Owens, Colorado River Regional Water Quality Control Board
Jeff Lamoure, I.C. Public Health Department via Email
Patricia Valenzuela, I. C. Development and Planning Services via Email
Anetha Lue
Jon Trujillo
Yanqiu Wu
Sam Rubin
Osvaldo Flores
Environmental File

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Attachment A

Summary of Conditions and Responses

DESERT VALLEY COMPANY

Quarterly Waste Discharge Report
Quarter 3, 2019

Part I

E. Reports to be filed with the Regional Board

E.1. Detection Monitoring Report

E.1.a. Letter of Transmittal

E.1.a.i. During the period July to September 2019 no violations were recorded other than the matter discussed in the cover letter.

E.1.a.ii. *No schedule or plan for correcting violations exists at this time*

E.1.a.iii. *Statement included (see cover letter)*

E.1.b. Compliance evaluation summary

E.1.b.i. Velocity and direction of groundwater flow

- *Please see Part II, B.9. and Attachment "B"*
- *CalEnergy uses the USEPA online tool to calculate the velocity and direction of groundwater flow. During third quarter 2019, groundwater was observed to flow to the north-northeast at an approximate calculated velocity of 3.86 feet per year.*

E.1.b.ii. Pre-sampling Purge for Samples Obtained From Wells

- *Monitoring wells addressed by this report are sampled by utilizing bladder pumps located in the wells. The wells are purged at a rate of approximately 0.5 gallons per minute. The amount of water purged from each well during sampling events is minimal; therefore purged water is disposed of in the on-site leachate pond.*
- *Turbidity, pH, conductivity and temperature measurements are performed in the field with a Symphony meter. The samples are collected in a sample cup, and a pH, conductivity, and temperature probe is placed in the samples to obtain the required readings. A Symphony pH meter, calibrated with 4 and 7 pH buffers, is used for pH measurements. A Symphony conductivity meter, calibrated using a 50,000 micro-siemens per centimeter standard, is used for conductivity measurements. Both meters are calibrated prior to each sampling event.*
- *The water levels in the wells are measured by a portable water level indicator. The total depth of the well is also recorded at every sampling event. Please note that some monitoring wells did not recover to at least 80% of the static level prior to collecting samples this quarter.*

CalEnergy will be amending the internal sampling procedure to ensure that all monitoring wells are allowed to recover to at least 80% of the static level.

E.I.b.iii. Sampling

- *Please see Attachment “F” for groundwater monitoring field forms. Monitoring points addressed by this report are sampled by utilizing bladder pumps located in the wells. Sample volumes and analysis conducted are listed below. A duplicate is collected for one well during each sampling period. Collected samples are stored on ice.*
 - *500 ml raw sample (plastic bottle) - TDS, chloride, and sulfate*
 - *250 ml sample preserved with 1% nitric acid, filtered with inline 0.45 micron filter (plastic bottle) - EPA 200.8 arsenic, barium, cadmium, lead, sodium, and zinc*
 - *1,000 ml raw sample (plastic bottle) - Gross alpha, gross beta, and gamma scan*
- *The sampler has completed a two-week in-house training on sampling groundwater monitoring and background wells*

E.1.c. Map showing locations of observation stations, monitoring points and background monitoring points.

- *Please see Part II, A.4. and Attachment “C”*

E.1.d. *Sample collection, storage, and analysis were performed according to the most recent version of Standard USEPA methods, and in accordance with an approved sampling and analysis plan. All sample analysis was performed by laboratories, which are approved by the State of California. All monitoring instruments and equipment were properly calibrated and maintained to ensure accuracy of measurements. The results of the analyses are compiled in Attachment F of this report.*

E.1.e. *Physical stormwater run-off/run-on controls are inspected routinely and are in good condition. The current Storm Water Pollution Prevention Plan for the facility is adequate for stormwater run-off control.*

E.1.f. *No reportable spills/leaks occurred during this reporting period.*

Part II: Monitoring and Observation

A. Waste Monitoring

A.1. Table reporting the amount of waste received in tons for each month of the previous reporting period. The waste consists mainly of non-hazardous geothermal filter cake resulting from filter press operations at geothermal power plants. Other non-hazardous waste streams permitted under the Solid Waste Facility Permit include drilling muds and cutting from geothermal well construction/reconstruction, soils contaminated with geothermal wastes and incidental plastic sheeting/materials used in transfer vehicles.

- Please see Attachment D.

A.2. Table representing the amount of ponded liquid removed from the Monofill for each month of the previous reporting period. If no liquid is present to remove then the statement of “No liquids present” shall be put in the report

- Please see Attachment E.

A.3. Describe the general condition of the Monofill (general maintenance, condition of berms etc.).

- The general condition of the Monofill is good.
 - General Maintenance - Loading and unloading areas are free of spills. Liner System Components are free of punctures and rips.
 - Condition of Berms - All dikes and berms are structurally sound.

A.4. A map showing the locations of all observation stations, groundwater monitoring wells, vadose wells, and any other monitoring points.

- Please see Attachment C.

B. Groundwater Sampling and Analysis for Detection Monitoring

With respect to provision C.3. of this Board Order (R7-2016-0016) regarding the analysis to evaluate the suitability of W306 as a background well to establish permit limits for constituents of concern, a December 15, 2016 Trend Analysis Report included a recommendation for historical groundwater data from each groundwater monitoring well to serve as the background concentrations for each well. The Trend Analysis further stated that it is not appropriate to use an up-gradient well screened in a different lithological unit (e.g., W306) as a background well when evaluating whether a release may have occurred from DVC. The Colorado River Basin Regional Water Quality Control Board approved the Trend Analysis Report in a letter dated October 12, 2017.

B.1. Groundwater Surface Elevation and Field Parameters- *Field parameters and groundwater elevation were recorded in the field in accordance with California ELAP rulings. Groundwater elevation is measured prior to purging of the wells. Sampling equipment is decontaminated between sampling of wells. Excess water purged from the wells is discarded into the leachate ponds. In*

addition, the following sampling procedures are pursued while taking readings of field parameters:

- a. pH, temperature, and conductivity are stabilized within 10 percent, and*
- b. turbidity has been reduced to 10 NTUs or the lowest practical levels achievable.*

- *Please refer to Attachment F for the Field Data Sheets and analytical data summaries.*
- *Monitoring of turbidity began during the third quarter of 2016 as required by implementation of Board Order No. R7-2016-0016, effective June 30, 2016.*

B.2. Ground Water Sample Collection- *Groundwater samples are collected from all monitoring points and background monitoring points. If possible, all wells are purged and allowed to recover to 80% of the initial static water level before sampling is performed. The wells are equipped with dedicated bladder pumps supplied with compressed gas. Samples are labeled, logged on chain-of-custody forms and placed in cold storage if necessary.*

B.3. Five-Day Sample Procurement Limitation- *Groundwater samples from all the wells are collected within five (5) days.*

B.4. Groundwater Monitoring Parameters for Detection Monitoring – *All quarterly groundwater samples were analyzed for all parameters and constituents listed in Part II.B.4.*

B.5. *All monitoring points assigned to Detection Monitoring are sampled quarterly as outlined in Part II.B.5. and Part II.B.4.*

B.6. Data Analysis

All historical monitoring data is statistically reviewed using a 95% Upper Confidence interval method.

B.7. Monitoring Points and Background Monitoring Points- The discharger shall sample the Monitoring Points and Background Monitoring Points in accordance with the sampling schedule given under Parts II.A [B].5.

- *Please see Attachment F for all analysis results. Attachment C contains a site facility map illustrating the locations of the monitoring wells.*

B.7.a. Up-gradient Well:

- *Well W306*

B.7.b. Down-gradient Wells

- *Wells: W302, W305, W309, W307, W308, W01, W10A, W09A, W11 and W12*

B.8. Initial Background Determination - For the purpose of establishing an initial pool of background data for each Constituent of Concern at each Background Monitoring Point (Title 27, Section 20415(e)(6))

B.8.a. Whenever a new Constituent of Concern is added to the Water Quality Protection Standard, the Discharger will sample quarterly for at least one (1) year.

- *No new Constituent of Concern has been added this quarter.*

B.8.b. Whenever a new Background Monitoring Point is added, the Discharger shall sample at least quarterly for at least one (1) year for all Constituents of Concern and Monitoring Parameters.

- *No new Background Monitoring Points have been added this quarter.*

B.9. Quarterly Determination of Ground Water Flow Rate/Direction (Title 27, Section 20415(e)(15)

The Desert Valley Company monofill facility is located on the west side of the floor of the Imperial Valley less than 10 miles southwest of the Salton Sea. Because the Salton Sea is maintained at a stage of -220 ft Mean Sea Level (MSL), which is lower than all groundwater elevations measured onsite, northerly to northeasterly groundwater flow toward the Salton Sea is expected.

Groundwater elevation data from 11 site monitoring wells was used to calculate groundwater gradient at the Desert Valley Company monofill. Gradient magnitude and flow direction were calculated by utilizing the hydraulic gradient calculator available on the Environmental Protection Agency website (www.epa.gov).

The following equation was used to determine the velocity of the groundwater flow: $v = -Ki/n_e$

Where: v = velocity of groundwater flow

K = hydraulic conductivity

i = hydraulic gradient

n_e = effective porosity

- Please see Attachment B

B.10. Direct Monitoring of All Constituents of Concern Every Five (5) Years

- *As required, "Direct Monitoring" for all Constituents of Concern Five Year Report was submitted in March 2015.*

C. Leachate Collection and Removal System (LCRS) Monitoring

C.1. The LCRS shall be inspected weekly and any liquid present shall be removed and stored in either an above ground storage tank or lined surface

impoundment. Per Appendix M of the Final Closure and Postclosure Maintenance Plan for Cell I and II, quarterly inspections of the LCRS are required. The liquid removed shall have field Electrical Conductance (EC) and pH readings taken and recorded.

- *Liquid removed is stored in the on-site leachate pond.*
- *Please see Attachment G*

C.2. A table presenting the amount of liquid removed from the LCRS for each month of the reporting period.

- *Please see Attachment G*

D. Leak Detection System (LDS) Monitoring

D.1. Each LDS sump shall be monitored weekly and any liquid found shall be removed and stored in either an above ground storage tank or lined surface impoundments used for the LCRS liquids. The liquid removed shall have field Electrical Conductance (EC) and pH readings taken and recorded.

- *Per Appendix M of the Final Closure and Postclosure Maintenance Plan for Cell I and II, quarterly inspections of the LDS sump are required.*
- *Please see Attachment H*

D.2. A table presenting the amount of liquid removed from the LDS for each month of the previous reporting period.

- *Please see Attachment H*

D.3. Should an amount of liquid or analysis of the liquid removed from the LDS alert the discharger that a leak may be occurring from the primary liner, the discharger shall contact the Regional Board immediately.

- *There has been no indication that a leak may be occurring.*

E. Vadose Zone Monitoring

E.1. The vadose zone monitoring system shall be monitored on a quarterly basis. *Vadose Z-1 was abandoned in 2004 to allow for the inter-tie between Cells 1&2.*

- *Please see Attachment I*

E.2. A written summary of the vadose zone data and what the data represents

- *Excluding the abnormal moisture readings collected from the Z-2 vadose tube first detected on November 1, 2018. No other significant changes in moisture have been detected in the vadose wells. Please refer to the event synopsis on the cover letter. All other data contained in this report is consistent with historical results.*

E.3. Should a moisture measurement alert the discharger that a leak may be occurring; the discharger will contact the Regional Board immediately.

- *There has been no indication that a leak may be occurring.*

Attachment B

Part II B.9. - Quarterly Determination of Ground Water Flow Rate/Direction

DVC Groundwater Flow Rate Third Quarter (Q3) 2019

The average linear velocity of groundwater flow (v) is a function of hydraulic conductivity (K), hydraulic gradient (i), and effective porosity (n_e):

$$v = - Ki/n_e$$

v <small>m/s</small>	=	-	K <small>m/s</small>	*	i	/	n_e
3.73E-08			1.00E-06		0.01642		0.44

3.86 ft/y



EPA On-line Tools for Site Assessment Calculation

Hydraulic Gradient -- Magnitude and Direction

Gradient Calculation from fitting a plane to as many as thirty points

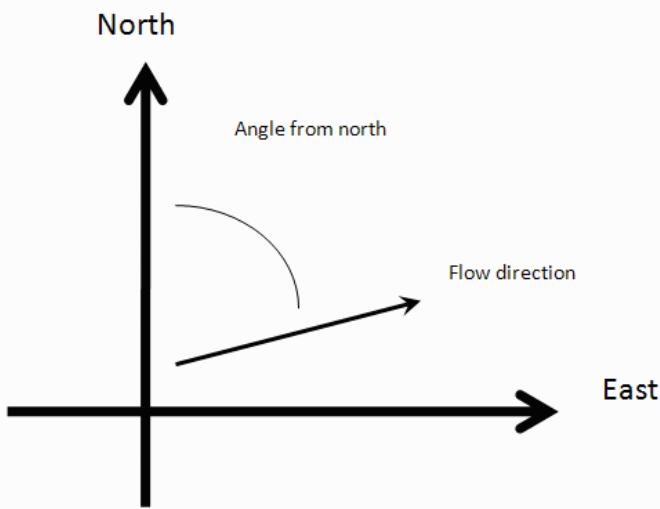
$$\begin{aligned} a x_1 + b y_1 + c = h_1 \\ a x_2 + b y_2 + c = h_2 \\ a x_3 + b y_3 + c = h_3 \\ \dots \\ a x_{30} + b y_{30} + c = h_{30} \end{aligned}$$

where (x_i, y_i) are the coordinates of the well and
 h_i is the head

$i = 1, 2, 3, \dots, 30$

The coefficients a , b , and c are calculated by a least-squares fitting of the data to a plane

The gradient is calculated from the square root of $(a^2 + b^2)$ and the angle from the arctangent of a/b or b/a depending on the quadrant



Inputs

Example Data Set 1 Example Data Set 2

Site Name

Date

Calculation basis

Coordinates

I.D.	x-coordinate	y-coordinate	head	ft
1) W01	8635.7	8646.6	-179.78	
2) W09A	9130.0	9191.7	-181.08	
3) W10A	9262.5	9019.6	-180.58	
4) W11	8901.1	9127.4	-180.83	
5) W12	8714.4	9077.5	-180.23	
6) W302	8691.3	7795.5	-157.64	
7) W305	9927.9	7900.2	-168.78	
8) W306	9320.7	7045.1	-147.11	
9) W307	9349.9	8585.3	-169.01	
10) W308	9425.5	8294.9	-169.31	
11) W309	9780.6	7986.7	-169.34	
12)				
13)				
14)				
15)				
16)				
17)				

18)			
19)			
20)			
21)			
22)			
23)			
24)			
25)			
26)			
27)			
28)			
29)			
30)			

Results

Number of Points Used in Calculation	11
Max. Difference Between Head Values	10.35
Gradient Magnitude (i)	0.01642
Flow direction as degrees from North (positive y axis)	12.66
Coefficient of Determination (R ²)	0.907

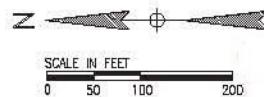
WCMS

Last updated on Tuesday, February 23, 2016

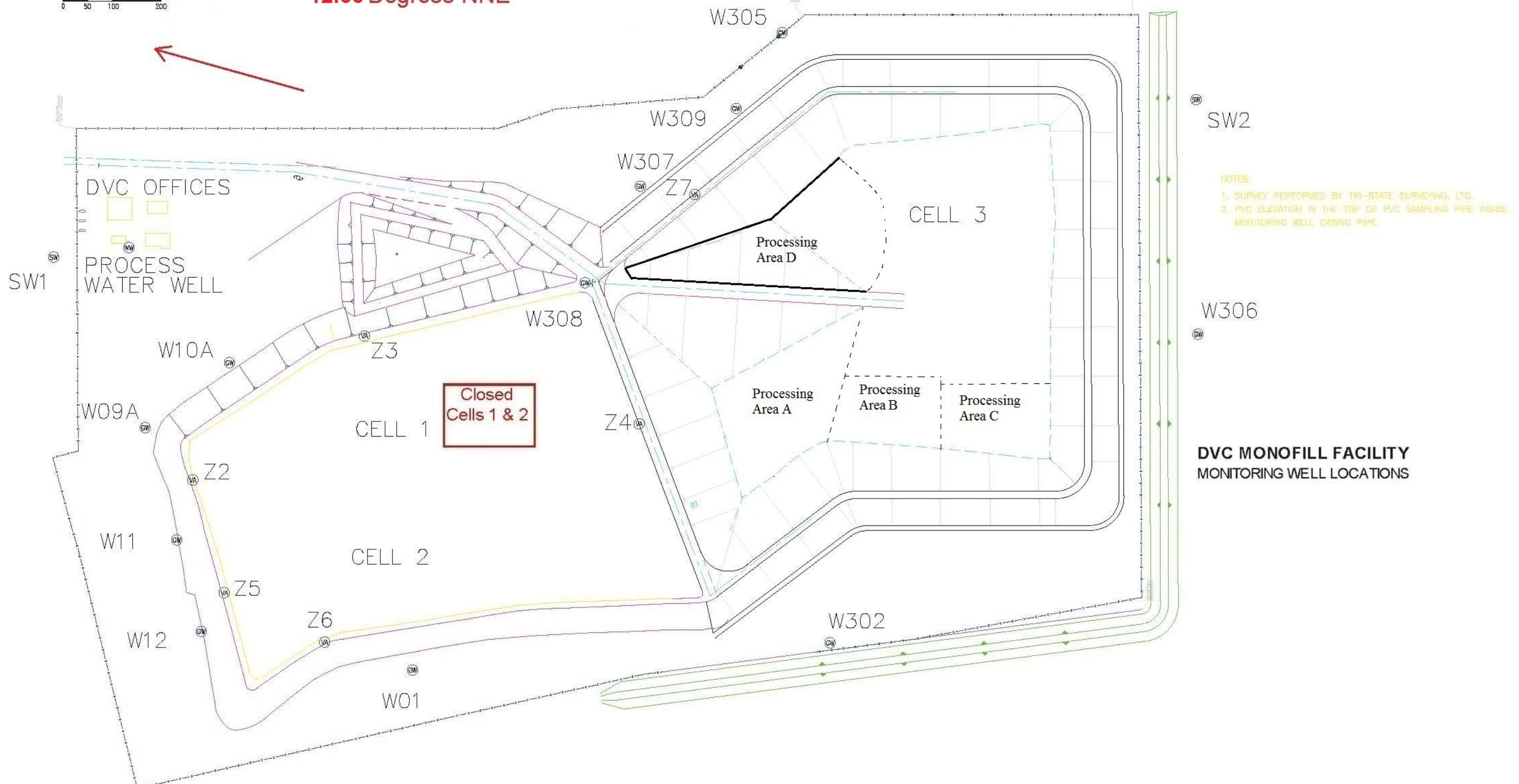
Attachment C

Part II A.4. & Part II.B.7 - Site Map

TENTHS 0 INCHES 1 2 3 4 5 6 7 8 9 10 EIGHTHES 0 MM 10 20 30 40 50 60 70 80 90 100



Direction of Ground Water Flow 12.66 Degrees NNE



REV	DATE	DESCRIPTION	BY APRV
REVISION RECORD			

ISSUE	DATE	REV	DESCRIPTION
ISSUE RECORD			

ENGINEERING MGR:	K CAMPBELL
PROJECT MGR:	
PROJECT ENG:	
DRAWN BY:	J HULA
DRAWN DATE:	9/9/2010

DESERT VALLEY COMPANY MONOFILL FACILITY GROUND WATER MONITORING WELL PLAN
--

PROJECT NUMBER DRAWING NUMBER 18-1003-GA-22_0 SHEET NUMBER 020
--

Attachment D

Part II A.1 - Quarterly Tonnage Report

Desert Valley Company
Monthly Summary Report

Cells 1 and 2 have been closed and are not receiving anymore waste.

Cell 3			
Geothermal Filter Cake (tons)			
	July 2019	August 2019	September 2019
Elmore	459.50	383.81	306.21
Leathers	831.78	494.74	759.65
Region 2	1374.00	1133.70	1318.40
Region 1	2123.30	2814.20	956.19
TOTALS	4788.58	4826.45	3340.45

Attachment E

Part II A.2 - Ponded Liquid Summary

Table: II.A.2. Cell 3 Ponded Liquid Removed

Wednesday, October 23, 2019

Note: A "0" indicates that there was no liquid present.

	<i>Gallons</i>
July 2019	0
August 2019	0
September 2019	0
Grand Total	0

Attachment F

Part II B.7. - Quarterly Ground Water Monitoring Data

DESERT VALLEY COMPANY
TABLE OF MONITORING WELLS CHEMICAL ANALYSIS

W01						
Constituents	Units	1/31/2019	5/3/2019	8/16/2019	4Q19	Method
pH	Units	6.73	6.73	6.67	--	SM 4500-H+ B
Temperature	°C	25.8	27.1	29.9	--	EPA 170.1
Depth to Water from top of casing	ft	66.30	66.43	66.68	--	AS_100v01
Groundwater Elevation	ft	-179.40	-179.53	-179.78	--	
Specific Conductance	µS/cm	11,810	11,600	11,790	--	SM 2510 B
TDS	mg/L	8,245	8,165	8,145	--	SM 2540 C
Chloride	mg/L	3,140	3,240	3,160	--	EPA 300.0
Sulfate	mg/L	1,840	1,900	1,880	--	EPA 300.0
Sodium	mg/L	1,740	1,690	1,750	--	EPA 200.7
Arsenic	mg/L	0.00474	0.00552	0.00546	--	EPA 200.8
Barium	mg/L	0.0235	0.0243	0.0320	--	EPA 200.8
Cadmium	mg/L	0.000780	<0.000603	<0.000603*	--	EPA 200.8
Lead	mg/L	0.000420	0.000100	<0.0000840	--	EPA 200.8
Zinc	mg/L	<0.00642*	<0.00642*	0.00908	--	EPA 200.8
Turbidity	NTU	0.25	0.60	0.28	--	EPA 180.1

*"Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

W09A						
Constituents	Units	1/31/2019	5/2/2019	8/15/2019	4Q19	Method
pH	Units	6.72	6.68	6.42	--	SM 4500-H+ B
Temperature	°C	24.8	26.9	32.4	--	EPA 170.1
Depth to Water from top of casing	ft	60.24	60.34	60.58	--	AS_100v01
Groundwater Elevation	ft	-180.74	-180.84	-181.08	--	
Specific Conductance	µS/cm	11,880	11,830	11,530	--	SM 2510 B
TDS	mg/L	9,035	8,530	8,790	--	SM 2540 C
Chloride	mg/L	3,290	3,290	3,210	--	EPA 300.0
Sulfate	mg/L	2,190	2,170	2,140	--	EPA 300.0
Sodium	mg/L	1,530	1,480	1,510	--	EPA 200.7
Arsenic	mg/L	0.0122	0.0133	0.01550	--	EPA 200.8
Barium	mg/L	0.0195	0.0215	0.0211	--	EPA 200.8
Cadmium	mg/L	0.000790	<0.000603	<0.000603*	--	EPA 200.8
Lead	mg/L	0.000290	0.0000900	<0.0000840	--	EPA 200.8
Zinc	mg/L	<0.00642	<0.00642*	0.00459	--	EPA 200.8
Turbidity	NTU	4.54	8.70	4.49	--	EPA 180.1

*"Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

DESERT VALLEY COMPANY
TABLE OF MONITORING WELLS CHEMICAL ANALYSIS

W10A						
Constituents	Units	1/30/2019	5/2/2019	8/15/2019	4Q19	Method
pH	Units	6.37	6.53	6.28	--	SM 4500-H+ B
Temperature	°C	27.1	26.8	30.4	--	EPA 170.1
Depth to Water from top of casing	ft	62.08	62.60	62.58	--	AS_100v01
Groundwater Elevation	ft	-180.08	-180.60	-180.58	--	
Specific Conductance	µS/cm	13,940	13,860	13,720	--	SM 2510 B
TDS	mg/L	10,250	9,815	9,740	--	SM 2540 C
Chloride	mg/L	4,090	4,070	3,920	--	EPA 300.0
Sulfate	mg/L	2,200	2,180	2,130	--	EPA 300.0
Sodium	mg/L	1,850	1,830	1,850	--	EPA 200.7
Arsenic	mg/L	0.00630	0.0101	0.01670	--	EPA 200.8
Barium	mg/L	0.0246	0.0256	0.0250	--	EPA 200.8
Cadmium	mg/L	0.000870	<0.000603*	<0.000603	--	EPA 200.8
Lead	mg/L	0.000310	0.000120	<0.0000840	--	EPA 200.8
Zinc	mg/L	<0.00642*	<0.00642*	0.00388	--	EPA 200.8
Turbidity	NTU	5.04	1.27	1.03	--	EPA 180.1

**Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

W11						
Constituents	Units	1/31/2019	5/2/2019	8/16/2019	4Q19	Method
pH	Units	6.85	6.70	6.69	--	SM 4500-H+ B
Temperature	°C	24.8	29.2	30.1	--	EPA 170.1
Depth to Water from top of casing	ft	62.40	62.78	62.83	--	AS_100v01
Groundwater Elevation	ft	-180.40	-180.78	-180.83	--	
Specific Conductance	µS/cm	11,880	11,800	11,950	--	SM 2510 B
TDS	mg/L	8,585	8,595	8,400	--	SM 2540 C
Chloride	mg/L	3,240	3,330	3,270	--	EPA 300.0
Sulfate	mg/L	2,110	2,150	2,160	--	EPA 300.0
Sodium	mg/L	1,560	1,550	1,570	--	EPA 200.7
Arsenic	mg/L	0.0526	0.0458	0.04870	--	EPA 200.8
Barium	mg/L	0.0197	0.0212	0.0212	--	EPA 200.8
Cadmium	mg/L	0.000910	<0.000603	<0.000603	--	EPA 200.8
Lead	mg/L	0.000300	<0.0000840*	<0.0000840	--	EPA 200.8
Zinc	mg/L	<0.00642	<0.00642*	<0.00372*	--	EPA 200.8
Turbidity	NTU	67.5	130	156	--	EPA 180.1

**Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

DESERT VALLEY COMPANY
TABLE OF MONITORING WELLS CHEMICAL ANALYSIS

W12						
Constituents	Units	1/31/2019	5/2/2019	8/16/2019	4Q19	Method
pH	Units	6.72	6.60	6.63	--	SM 4500-H+ B
Temperature	°C	26.5	29.8	29.9	--	EPA 170.1
Depth to Water from top of casing	ft	62.93	63.23	63.03	--	AS_100v01
Groundwater Elevation	ft	-180.13	-180.43	-180.23	--	
Specific Conductance	µS/cm	12,480	12,360	12,470	--	SM 2510 B
TDS	mg/L	8,925	8,780	8,775	--	SM 2540 C
Chloride	mg/L	3,520	3,550	3,470	--	EPA 300.0
Sulfate	mg/L	2,040	2,050	2,040	--	EPA 300.0
Sodium	mg/L	1,680	1,650	1,670	--	EPA 200.7
Arsenic	mg/L	0.0101	0.0102	0.00904	--	EPA 200.8
Barium	mg/L	0.0203	0.0221	0.0204	--	EPA 200.8
Cadmium	mg/L	0.00107	<0.000603*	<0.000603*	--	EPA 200.8
Lead	mg/L	0.000240	0.0000900	<0.0000840	--	EPA 200.8
Zinc	mg/L	<0.00642	<0.00642*	0.0156	--	EPA 200.8
Turbidity	NTU	1.35	1.56	0.69	--	EPA 180.1

**Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

W302						
Constituents	Units	1/31/2019	5/3/2019	8/16/2019	4Q19	Method
pH	Units	7.21	7.18	7.06	--	SM 4500-H+ B
Temperature	°C	27.0	27.3	29.6	--	EPA 170.1
Depth to Water from top of casing	ft	61.14	61.13	61.24	--	AS_100v01
Groundwater Elevation	ft	-157.54	-157.53	-157.64	--	
Specific Conductance	µS/cm	6,850	6,850	6,800	--	SM 2510 B
TDS	mg/L	4,493	4,458	4,375	--	SM 2540 C
Chloride	mg/L	1,790	1,790	1,730	--	EPA 300.0
Sulfate	mg/L	969	968	948	--	EPA 300.0
Sodium	mg/L	1,100	1,080	1,130	--	EPA 200.7
Arsenic	mg/L	0.00622	0.00569	0.00652	--	EPA 200.8
Barium	mg/L	0.0176	0.0191	0.0186	--	EPA 200.8
Cadmium	mg/L	0.000430	<0.000302	<0.000302	--	EPA 200.8
Lead	mg/L	0.000120	0.0000450	<0.0000420	--	EPA 200.8
Zinc	mg/L	<0.00321	0.00501	<0.00186*	--	EPA 200.8
Turbidity	NTU	1.77	0.67	8.16	--	EPA 180.1

**Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

DESERT VALLEY COMPANY
TABLE OF MONITORING WELLS CHEMICAL ANALYSIS

GW305						
Constituents	Units	1/30/2019	5/1/2019	8/14/2019	4Q19	Method
pH	Units	7.22	7.28	7.17	--	SM 4500-H+ B
Temperature	°C	25.7	26.3	30.3	--	EPA 170.1
Depth to Water from top of casing	ft	63.60	63.86	63.88	--	AS_100v01
Groundwater Elevation	ft	-168.50	-168.76	-168.78	--	
Specific Conductance	µS/cm	6,480	6,440	6,520	--	SM 2510 B
TDS	mg/L	4,135	4,135	4,177	--	SM 2540 C
Chloride	mg/L	1,640	1,640	1,590	--	EPA 300.0
Sulfate	mg/L	905	906	889	--	EPA 300.0
Sodium	mg/L	1,080	1,080	1,110	--	EPA 200.7
Arsenic	mg/L	0.00328	0.00345	0.00388	--	EPA 200.8
Barium	mg/L	0.0168	0.0184	0.0182	--	EPA 200.8
Cadmium	mg/L	0.000350	<0.000302	<0.000302	--	EPA 200.8
Lead	mg/L	0.000220	0.0000800	<0.0000420	--	EPA 200.8
Zinc	mg/L	<0.00321	<0.00321*	<0.00186*	--	EPA 200.8
Turbidity	NTU	0.63	0.58	0.51	--	EPA 180.1

**Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

GW306						
Constituents	Units	1/31/2019	5/3/2019	8/16/2019	4Q19	Method
pH	Units	7.65	7.60	7.61	--	SM 4500-H+ B
Temperature	°C	26.8	27.6	29.1	--	EPA 170.1
Depth to Water from top of casing	ft	59.25	59.24	59.41	--	AS_100v01
Groundwater Elevation	ft	-146.95	-146.94	-147.11	--	
Specific Conductance	µS/cm	3,410	3,420	3,460	--	SM 2510 B
TDS	mg/L	1,988	1,992	2,008	--	SM 2540 C
Chloride	mg/L	814	837	804	--	EPA 300.0
Sulfate	mg/L	324	333	323	--	EPA 300.0
Sodium	mg/L	625	620	659	--	EPA 200.7
Arsenic	mg/L	0.00184	0.00176	0.00218	--	EPA 200.8
Barium	mg/L	0.0242	0.0254	0.0258	--	EPA 200.8
Cadmium	mg/L	<0.00302*	<0.000302	<0.000302	--	EPA 200.8
Lead	mg/L	0.0002600	0.0000500	<0.0000420	--	EPA 200.8
Zinc	mg/L	<0.00321	<0.00321*	<0.00186*	--	EPA 200.8
Turbidity	NTU	0.28	0.32	0.84	--	EPA 180.1

**Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

DESERT VALLEY COMPANY
TABLE OF MONITORING WELLS CHEMICAL ANALYSIS

GW307						
Constituents	Units	1/30/2019	5/1/2019	8/15/2019	4Q19	Method
pH	Units	7.16	7.32	7.21	--	SM 4500-H+ B
Temperature	°C	25.5	28.4	30.3	--	EPA 170.1
Depth to Water from top of casing	ft	63.62	63.68	63.61	--	AS_100v01
Groundwater Elevation	ft	-169.02	-169.08	-169.01	--	
Specific Conductance	µS/cm	6,370	6,200	6,290	--	SM 2510 B
TDS	mg/L	4,030	4,046	4,044	--	SM 2540 C
Chloride	mg/L	1,530	1,530	1,490	--	EPA 300.0
Sulfate	mg/L	965	950	945	--	EPA 300.0
Sodium	mg/L	1,020	1,050	1,070	--	EPA 200.7
Arsenic	mg/L	0.00322	0.00361	0.00419	--	EPA 200.8
Barium	mg/L	0.0184	0.0200	0.0197	--	EPA 200.8
Cadmium	mg/L	0.000375	<0.000302	<0.000302	--	EPA 200.8
Lead	mg/L	0.000170	0.0000700	<0.0000420	--	EPA 200.8
Zinc	mg/L	<0.00321	<0.00321*	<0.00186*	--	EPA 200.8
Turbidity	NTU	1.28	0.80	0.75	--	EPA 180.1

**Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

GW308						
Constituents	Units	1/30/2019	5/1/2019	8/14/2019	4Q19	Method
pH	Units	7.26	7.26	7.32	--	SM 4500-H+ B
Temperature	°C	24.7	28.3	28.8	--	EPA 170.1
Depth to Water from top of casing	ft	78.28	78.36	78.41	--	AS_100v01
Groundwater Elevation	ft	-169.18	-169.26	-169.31	--	
Specific Conductance	µS/cm	5,610	5,630	5,720	--	SM 2510 B
TDS	mg/L	3,590	3,582	3,574	--	SM 2540 C
Chloride	mg/L	1,380	1,410	1,350	--	EPA 300.0
Sulfate	mg/L	824	834	813	--	EPA 300.0
Sodium	mg/L	933	958	977	--	EPA 200.7
Arsenic	mg/L	0.00260	0.00280	0.00318	--	EPA 200.8
Barium	mg/L	0.0199	0.0215	0.0217	--	EPA 200.8
Cadmium	mg/L	0.000395	<0.000302	<0.000302	--	EPA 200.8
Lead	mg/L	0.000195	<0.0000420*	<0.0000420	--	EPA 200.8
Zinc	mg/L	<0.00321	<0.00321*	0.00257	--	EPA 200.8
Turbidity	NTU	0.32	0.24	0.20	--	EPA 180.1

**Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

DESERT VALLEY COMPANY
TABLE OF MONITORING WELLS CHEMICAL ANALYSIS

GW309						
Constituents	Units	1/30/2019	5/1/2019	8/14/2019	4Q19	Method
pH	Units	7.21	7.31	7.08	--	SM 4500-H+ B
Temperature	°C	26.0	26.4	31.0	--	EPA 170.1
Depth to Water from top of casing	ft	63.24	63.37	63.44	--	AS_100v01
Groundwater Elevation	ft	-169.14	-169.27	-169.34	--	
Specific Conductance	µS/cm	6,490	6,450	6,530	--	SM 2510 B
TDS	mg/L	4,162	4,198	4,138	--	SM 2540 C
Chloride	mg/L	1,620	1,610	1,560	--	EPA 300.0
Sulfate	mg/L	993	987	969	--	EPA 300.0
Sodium	mg/L	1,070	1,090	1,110	--	EPA 200.7
Arsenic	mg/L	0.00389	0.00351	0.00394	--	EPA 200.8
Barium	mg/L	0.0154	0.0170	0.0167	--	EPA 200.8
Cadmium	mg/L	0.000325	<0.000302	<0.000302	--	EPA 200.8
Lead	mg/L	0.000120	<0.0000420*	<0.0000420	--	EPA 200.8
Zinc	mg/L	<0.00321*	0.00381	<0.00186*	--	EPA 200.8
Turbidity	NTU	0.59	0.17	0.49	--	EPA 180.1

*"Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

DUPLICATE QC SAMPLE						
Constituents	Units	GW308	GW305	GW308	--	Method
		1/30/2019	5/1/2019	8/14/2019	4Q19	
pH		7.27	7.26	7.35	--	SM 4500-H+ B
Temperature	°C	25.3	26.3	28.8	--	EPA 170.1
Depth of Water from top of casing	ft	78.28	63.86	78.41	--	AS_100v01
Groundwater Elevation	ft	-169.18	-168.76	-169.31	--	
Specific Conductance	µS/cm	5,550	6,440	5,720	--	SM 2510 B
TDS	mg/L	3,552	4,155	3,596	--	SM 2540 C
Chloride	mg/L	1,380	1,630	1,320	--	EPA 300.0
Sulfate	mg/L	824	896	798	--	EPA 300.0
Sodium	mg/L	926	1,100	983	--	EPA 200.7
Arsenic	mg/L	0.00276	0.00354	0.00258	--	EPA 200.8
Barium	mg/L	0.0200	0.0187	0.0207	--	EPA 200.8
Cadmium	mg/L	0.000405	<0.000302	<0.000302	--	EPA 200.8
Lead	mg/L	0.000105	0.0000700	<0.0000420	--	EPA 200.8
Zinc	mg/L	<0.00321	<0.00321*	<0.00186*	--	EPA 200.8
Turbidity	NTU	0.30	0.54	0.20	--	EPA 180.1

*"Trace result". - Estimate of constituent concentration falls between the MDL and PQL. Please refer to the complete analytical report in the attachment.

QC = quality control

RSD = root square difference

DVC Ground Water Monitoring Wells 95% Upper Confidence Interval Historical Data

Constituents	Units	W01	W09A	W10A	W11	W12	W302	W305	W306	W307	W308	W309
pH	Units	7.15	7.13	6.97	7.20	7.12	7.64	7.72	8.11	7.80	7.76	7.75
Temperature	°C	31.4	32.7	31.6	31.5	31.3	31.4	31.4	31.6	31.7	33.2	32.5
Groundwater Elevation	ft	-178	-178	-178	-179	-179	-156	-168	-146	-167	-167	-167
Specific Conductivity	µS/cm	12,919	13,001	15,639	13,269	14,032	8,172	7,406	4,815	6,846	6,395	7,365
TDS	mg/L	8,722	9,729	11,740	9,499	9,820	5,036	5,062	2,921	4,584	4,713	5,027
Chloride	mg/L	3,488	3,420	4,374	3,558	3,820	2,064	2,081	1,029	1,630	1,560	1,834
Sulfate	mg/L	1,967	2,381	2,319	2,343	2,229	1,071	1,080	472	1,044	989	1,107
Sodium	mg/L	2,028	1,752	2,190	2,014	2,013	1,358	1,416	962	3,546	1,212	1,503
Arsenic	mg/L	0.0122	0.0180	0.0193	0.0602	0.0140	0.0098	0.0062	0.0048	0.0063	0.0060	0.0126
Barium	mg/L	0.0653	0.0404	0.0732	0.1265	0.0327	0.0292	0.0533	0.0352	0.0698	0.0487	0.0407
Cadmium	mg/L	0.00220	0.00187	0.00190	0.00159	0.00327	0.00200	0.00153	0.00151	0.00178	0.00209	0.00159
Lead	mg/L	0.00578	0.00223	0.00347	0.00555	0.00382	0.01107	0.00275	0.00274	0.00344	0.00337	0.00223
Zinc	mg/L	0.0576	0.0384	0.1423	0.0450	0.0931	0.0594	0.0442	0.0698	0.0398	0.0468	0.0381
Turbidity	NTU	3.44	24.5	7.49	189	11.53	8.75	25.5	0.80	3.96	5.79	6.08

Ground Water Sampling Record

Logbook #26 18

Quality Control Section

pH Calibration Logbook: #10 page 55
 Conductivity Calibration Logbook: #2 page 11
 Turbidity Calibration Logbook: #2 page 11

 Sampler/Analyst: S. Miller

 Date: 8-16-19

 Facility: DVC

 Well Type: Monitoring Well
 Well Number: GW 01
Stability Criteria:

pH: ±0.10
 Temperature: ±2%
 Conductivity: ±2%
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

 Starting Water Level (ft TOC): 66.68

 Ending Water Level (ft TOC): 67.75

 Total Depth (ft TOC): 75.15
Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
1908032-001	9:35	5.0	29.3	6.58	11,800	1.54	
1908032-001	9:40	5.5	29.3	6.60	11,750	0.61	pH
1908032-001	9:45	6.0	29.7	6.62	11,820	0.55	
" " lab DUP	9:50	6.5	29.9	6.66	11,780	0.26	
	9:50	6.5	29.9	6.67	11,790	0.28	Conductivity
							Turbidity

Sample Inventory

Sample Collection Time	Volume (ml)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
12:07	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
	1000	Plastic	1	No	-	No	brown	yes
	500	Plastic		Yes	HNO ₃	Yes		
	250	Plastic	1	Yes	HNO ₃	Yes	brown	yes
	250	Plastic	2	No	-	No	brown	yes
	40	Vial		Yes	HCl	No		

 Purgung Equipment: bladder pump

 Observations/Comments: Started purging at 9:10
 waited 50 minutes for well to re-charge but it did not
 re-charge to 80%, took lunch and came back to it,
 well re-charged 80% but came out brown. when the last
 reading was taken at 9:50 the water was very clear

 Sampling Equipment: bladder pump

 Disposal of Discharge Water: to run off pond

 QA/QC Supervisor SW/OCB 9/11/19
 Conductivity Standard Method 2510B
 Turbidity EPA 180.1

Ground Water Sampling Record

Logbook # 17

Quality Control Section

pH Calibration Logbook: #10 page 54
 Conductivity Calibration Logbook: #2 page 11
 Turbidity Calibration Logbook: #2 page 11

 Sampler/Analyst: R. Lee
 Date: 8/15/19

Stability Criteria:

pH: ±0.10
 Temperature: ±2%
 Conductivity: ±2%
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

 Facility: DVC
 Well Type: monitoring well
 Well Number: GW-09A

 Starting Water Level (ft TOC): 60.58
 Ending Water Level (ft TOC): 67.53
 Total Depth (ft TOC): 79.57

Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
1908032-002	1051	1.5	32.9	6.41	11,340	15.1	
1908032-002	1056	2.2	32.5	6.42	11,580	8.05	pH
1908032-002	1101	3.0	33.1	6.41	11,700	6.06	
" " lab dup	1106	3.6	32.9	6.43	11,510	4.67	
" "	1111	4.2	32.9	6.42	11,530	4.49	Conductivity
							Turbidity

Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
1150	1000	Plastic	1	No	-	No	Clear	NONE
	500	Plastic		Yes	HNO ₃	Yes		
1150	250	Plastic	1	Yes	HNO ₃	Yes	Clear	NONE
1150	250	Plastic	2	No	-	No	Clear	NONE
	40	Vial		Yes	HCl	No		

Purging Equipment: Bladder Pump
 Sampling Equipment: Bladder Pump
 Disposal of Discharge Water: Run off pond

Observations/Comments: purge started @ 1041

QA/QC Supervisor: D.L.C. 9/11/19

Ground Water Sampling Record

Logbook # 17

Quality Control Section

pH Calibration Logbook: #10 page 54
 Conductivity Calibration Logbook: #2 page 11
 Turbidity Calibration Logbook: #2 page 11

Sampler/Analyst:

 R. Lee
 8/15/19

Date:

 Facility:
 Well Type:
 Well Number:

 DUC
 Monitoring Well
 GW-10A

Stability Criteria:

pH: ±0.10

Temperature: ±2%

Conductivity: ±2%

Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

 Starting Water Level (ft TOC): 62.58
 Ending Water Level (ft TOC): 65.9
 Total Depth (ft TOC): 69.47

Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
1908032-003	905	2	31.5	6.33	13,680	2.44	
1908032-003	910	2.7	31.3	6.32	13,770	1.09	pH
1908032-003	915	3.7	30.4	6.28	13,720	1.03	
							Conductivity
							Turbidity

Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
1025	1000	Plastic	1	No	-	No	Clear	NONE
	500	Plastic		Yes	HNO ₃	Yes		
1025	250	Plastic	1	Yes	HNO ₃	Yes	Clear	NONE
1025	250	Plastic	2	No	-	No	Clear	NONE
	40	Vial		Yes	HCl	No		

Purging Equipment:

Bladder Pump

Observations/Comments: Started purge @ 855

Sampling Equipment:

Bladder Pump

Disposal of Discharge Water:

Run off Pond

QA/QC Supervisor: Owl Cole 9/11/19

Ground Water Sampling Record

Logbook # 16 18

Quality Control Section

pH Calibration Logbook: #10 page 55
 Conductivity Calibration Logbook: #2 page 11
 Turbidity Calibration Logbook: #2 page 11

Sampler/Analyst: S. Miller
 Date: 8-16-19
 Facility: DVC
 Well Type: Monitoring Well
 Well Number: GW 11

Stability Criteria:

pH: ±0.10
 Temperature: ±2%
 Conductivity: ±2%
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

Starting Water Level (ft TOC): 62.83
 Ending Water Level (ft TOC): 66.68
 Total Depth (ft TOC): 75.36

Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
1908032-004	13:00	2.0	31.8	6.57	11,900	233	
1908032-004	13:05	2.5	30.8	6.64	11,990	185	pH
1908032-004	13:10	3.0	30.6	6.67	11,940	187	
1908032-004	13:15	3.5	30.1	6.69	11,950	156	Conductivity
							Turbidity

Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
13:20	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
	1000	Plastic	1	No	-	No	yellow	yes
	500	Plastic		Yes	HNO ₃	Yes		
	250	Plastic	1	Yes	HNO ₃	Yes	yellow	yes
	250	Plastic	2	No	-	No	yellow	yes
	40	Vial		Yes	HCl	No		

Purging Equipment: bladder pump
 Sampling Equipment: bladder pump
 Disposal of Discharge Water: run off pond

Observations/Comments: started purging at 12:42

QA/QC Supervisor: CD/DB 9/11/19

Ground Water Sampling Record

Logbook # 17

Quality Control Section

pH Calibration Logbook: #10 page 55
 Conductivity Calibration Logbook: #2 page 11
 Turbidity Calibration Logbook: #2 page 11

Stability Criteria:

pH: ±0.10
 Temperature: ±2%
 Conductivity: ±2%
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

 Sampler/Analyst: Alonzo
 Date: 8/6/19

 Facility: DVC
 Well Type: monitoring well
 Well Number: GW12

 Starting Water Level (ft TOC): 63.03
 Ending Water Level (ft TOC): 65.21
 Total Depth (ft TOC): 68.76
Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
1908032-005	12:40	1.0	31.1	6.60	12300	3.34	
1908032-005	12:45	2.0	30.2	6.61	12410	1.61	pH
1908032-005	12:50	3.0	29.9	6.63	12470	0.69	
							Conductivity
							Turbidity

Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
13:10	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
	1000	Plastic	1	No	-	No		
	500	Plastic		Yes	HNO ₃	Yes		
	250	Plastic	1	Yes	HNO ₃	Yes		
	250	Plastic	1	No	-	No		
	40	Vial		Yes	HCl	No		

Purging Equipment: Bladder Pump
 Sampling Equipment: Bladder Pump
 Disposal of Discharge Water: Run off Pond

Observations/Comments: Start Purge @ 12:31pm
Supervisor said do not wait more than 15min for recharge
Well did not recharge within 15 min time limit

 QA/QC Supervisor: David S. 9/11/19

Ground Water Sampling Record

Logbook # 17

Quality Control Section

pH Calibration Logbook: #10 page 55
 Conductivity Calibration Logbook: #2 page 11
 Turbidity Calibration Logbook: #2 page 11

Sampler/Analyst: A. Conal
 Date: 8/16/19
 Facility: DVC
 Well Type: Monitoring Well
 Well Number: GW 302

Stability Criteria:

pH: ±0.10
 Temperature: ±2%
 Conductivity: ±2%
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

Starting Water Level (ft TOC): 61.44
 Ending Water Level (ft TOC): 62.0
 Total Depth (ft TOC): 67.03

Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
1908032-006	9:55	1.0	30.3	7.02	6940	32.3	
1908032-006	10:00	2.0	29.7	7.10	6830	19.5	pH
1908032-006	10:05	3.0	29.6	7.06	6800	8.16	
							Conductivity
							Turbidity

Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
10:25	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
	1000	Plastic	1	No	-	No		
	500	Plastic		Yes	HNO ₃	Yes		
	250	Plastic	1	Yes	HNO ₃	Yes		
	250	Plastic	2	No	-	No		
	40	Vial		Yes	HCl	No		

Purging Equipment: Bladder Pump
 Sampling Equipment: Bladder Pump
 Disposal of Discharge Water: Rain Off Pond

 Observations/Comments: Start purge @ 9:52am

 QA/QC Supervisor Paul Dahl 9/11/19

Ground Water Sampling Record

Logbook # 17

Quality Control Section

pH Calibration Logbook: #10 page 54
 Conductivity Calibration Logbook: #2 page 11
 Turbidity Calibration Logbook: #2 page 11

Sampler/Analyst: S. Miller/A. Corral
 Date: 8-14-19

Facility: DVC
 Well Type: Monitoring Well
 Well Number: GW 305

Stability Criteria:

pH: ±0.10
 Temperature: ±2%
 Conductivity: ±2%
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

Starting Water Level (ft TOC): 63.88
 Ending Water Level (ft TOC): 65.68 "E" 65.18
 Total Depth (ft TOC): 70.67

Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
1908032 - 007	9:40	2.5	30.1	7.12	6540	1.37	
1908032 - 007	9:45	3.5	29.9	7.13	6530	0.81	pH
1908032 - 007	9:50	4.5	30.3	7.17	6520	0.51	
							Conductivity
							Turbidity

Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
10:00	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
	1000	Plastic	1	No	-	No	clear	no
	500	Plastic		Yes	HNO ₃	Yes		
	250	Plastic	1	Yes	HNO ₃	Yes	clear	no
	250	Plastic	2	No	-	No	clear	no
	40	Vial		Yes	HCl	No		

Purging Equipment: _____

 Observations/Comments: Started purge at 9:28

Sampling Equipment: _____

Disposal of Discharge Water: _____

 QA/QC Supervisor A. Corral 9/11/19

Ground Water Sampling Record

Logbook # 17

Quality Control Section

pH Calibration Logbook: #10 page 55
 Conductivity Calibration Logbook: H2 page 11
 Turbidity Calibration Logbook: #2 page 11

Sampler/Analyst: ACanal
 Date: 3/16/19
 Facility: DNC
 Well Type: Monitoring Well
 Well Number: GW 306

Stability Criteria:

pH: ± 0.10
 Temperature: $\pm 2\%$
 Conductivity: $\pm 2\%$
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

Starting Water Level (ft TOC): 59.41
 Ending Water Level (ft TOC): 59.56
 Total Depth (ft TOC): 62.30

Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity ($\mu\text{S}/\text{cm}$)	Turbidity (NTU)	RPD
1908032-008	8:27	2.5	30.1	7.58	3640	2.37	
1908032-008	8:32	3.0	29.2	7.60	3460	1.49	pH
1908032-008	8:37	3.5	29.1	7.61	3460	0.84	
							Conductivity
							Turbidity

Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 μm	Sample Appearance	
							Color	Turbidity & Sediments
8:47	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
	1000	Plastic	1	No	-	No		
	500	Plastic		Yes	HNO ₃	Yes		
	250	Plastic	1	Yes	HNO ₃	Yes		
	250	Plastic	1	No	-	No		
	40	Vial		Yes	HCl	No		

Purging Equipment: Bladder Pump
 Sampling Equipment: Bladder Pump
 Disposal of Discharge Water: Run off pond

 Observations/Comments: Start purge @ 8:17am

 QA/QC Supervisor David 9/11/19

Ground Water Sampling Record

Logbook # 17

Quality Control Section

pH Calibration Logbook: #10 page 54
 Conductivity Calibration Logbook: #2 page 11
 Turbidity Calibration Logbook: #2 page 11

Sampler/Analyst: R.Lee

Date: 8/15/19

Facility: DUC

 Well Type: Monitoring Well
 Well Number: GW-307

Stability Criteria:

pH: ±0.10
 Temperature: ±2%
 Conductivity: ±2%
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

Starting Water Level (ft TOC): 63.61
 Ending Water Level (ft TOC): 63.10
 Total Depth (ft TOC): 64.87

Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp: (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
1908032-009	740	1.0	31.2	7.21	6,230	1.25	
1908032-009	745	1.5	30.8	7.20	6,240	0.92	pH
1908032-009	750	2.0	30.3	7.21	6,290	0.75	
							Conductivity
							Turbidity

Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
800	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
	1000	Plastic	1	No	-	No	Clear	NONE
	500	Plastic		Yes	HNO ₃	Yes		
	250	Plastic	1	Yes	HNO ₃	Yes	Clear	NONE
	250	Plastic	2	No	-	No	Clear	NONE
	40	Vial		Yes	HCl	No		

Purging Equipment: Bladder Pump
 Sampling Equipment: Bladder Pump
 Disposal of Discharge Water: run off pond

Observations/Comments: Started purge @ 730

QA/QC Supervisor: [Signature] 9/11/19

Ground Water Sampling Record

Logbook # 17

Quality Control Section

 pH Calibration Logbook: #10 page 54

 Conductivity Calibration Logbook: #2 page 11

 Turbidity Calibration Logbook: #2 page 11

 Sampler/Analyst: S. Miller/A. Corral

 Date: 8-14-19

 Facility: DVC

 Well Type: Monitoring Well

 Well Number: GW 308
Stability Criteria:

 pH: ± 0.10

 Temperature: $\pm 2\%$

 Conductivity: $\pm 2\%$

Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

 Starting Water Level (ft TOC): 78.41

 Ending Water Level (ft TOC): 78.48

 Total Depth (ft TOC): 82.95 at sample collection

Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
1908032 - 10	7:20	1.0	28.8	7.34	5730	0.90	
1908032 - 10	7:25	1.5	28.8	7.32	5720	0.40	pH
1908032 - 10	7:30	2.0	28.8	7.32	5720	0.20	
1908032 - 12 DUP	7:35	2.5	28.8	7.35	5720	0.20	
							Conductivity
							Turbidity

Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
7:42	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
	1000	Plastic	2	No	-	No	clear	no
	500	Plastic		Yes	HNO ₃	Yes		
	250	Plastic	2	Yes	HNO ₃	Yes	clear	no
	250	Plastic	4	No	-	No	clear	no
	40	Vial		Yes	HCl	No		

Purging Equipment: _____

 Observations/Comments: Started purge at 7:10

Sampling Equipment: _____

Disposal of Discharge Water: _____

 QA/QC Supervisor David Cole 9/11/19

Ground Water Sampling Record

Logbook # 17

Quality Control Section

pH Calibration Logbook: #10 Page 54
 Conductivity Calibration Logbook: #2 Page 11
 Turbidity Calibration Logbook: #2 Page 11

 Sampler/Analyst: S.Miller/A.Corra/
 Date: 8-14-19

Stability Criteria:

pH: ±0.10
 Temperature: ±2%
 Conductivity: ±2%
 Turbidity: Turbidity has been reduced to 10 NTUs or the lowest practical achievable.

 Facility: DUC
 Well Type: Monitoring well
 Well Number: CW_309

 Starting Water Level (ft TOC): 63.44
 Ending Water Level (ft TOC): 63.46
 Total Depth (ft TOC): 65.75

Sampling Measurements

LIMS #	Time	Vol. (gal)	Temp. (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	RPD
1908032-011	10:50	1.0	31.9	7.07	6550	2.27	
1908032-011	10:55	1.2	30.9	7.05	6540	0.85	pH
1908032-011	11:00	1.5	31.0	7.08	6530	0.49	
							Conductivity
							Turbidity

Sample Inventory

Sample Collection Time	Volume (mL)	Bottle Type	Quantity	Preserved	Preserved with	Filtered w/ 0.45 µm	Sample Appearance	
							Color	Turbidity & Sediments
11:10	1000	Amber		Yes	HCl	No		
	1000	Glass		Yes	HCl	No		
	1000	Plastic	1	No	-	No	clear	no
	500	Plastic		Yes	HNO ₃	Yes		
	250	Plastic	1	Yes	HNO ₃	Yes	clear	no
	250	Plastic	2	No	-	No	clear	no
	40	Vial		Yes	HCl	No		

Purging Equipment:

Observations/Comments: Started purge at 10:43

Sampling Equipment:

Disposal of Discharge Water:

QA/QC Supervisor

CW02A 9/11/19



CalEnergy Operating Corporation

7030 Gentry Road

Calipatria, CA 92233

TEL: (760) 348-4200 FAX: (760) 348-4222

Website: www.calenergy.com

September 16, 2019

Anetha Lue
CalEnergy
CalEnergy Operating Corporation
7030 Gentry Road
Calipatria, CA 92233
TEL:
FAX:

RE: DVC Quarterly MW

Order No.: 1908032

Dear Anetha Lue:

CalEnergy Operating Corporation received 12 sample(s) on 8/16/2019 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative. Analytical results designated with a "J" qualifier are estimated and represent a detection above the Method Detection Limit (MDL) and less than the Reporting Limit (PQL). These analytes are not reviewed nor narrated as to whether they are laboratory artifacts.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "Yanqiu Wu".

Yanqiu Wu
Director, Engineering & Laboratory Service
7030 Gentry Road
Calipatria, CA 92233



CalEnergy Operating Corporation
7030 Gentry Road
Calipatria, CA 92233
TEL: (760) 348-4200 FAX: (760) 348-4222
Website: www.calenergy.com

Case Narrative

WO#: 1908032
Date: 9/16/2019

CLIENT: CalEnergy
Project: DVC Quarterly MW

This report in its entirety consists of the documents listed below. All documents contain the CalEnergy Operating Corporation Work Order Number assigned to this report.

1. Paginated Report including: Case Narrative, Analytical Results and Applicable Quality Control Summary Reports.
2. A Cover Letter that immediately precedes the Paginated Report.
3. Paginated copies of the Chain of Custody Documents supplied with this sample set.

Concentrations reported with a J flag in the Qual field are values below the reporting limit (RL) but greater than the established method detection limit (MDL). There is greater uncertainty associated with these results and data should be considered as estimated.

Concentrations reported with an E flag in the Qual field are values that exceed the upper quantification range. There is greater uncertainty associated with these results and data should be considered as estimated.

Any comments or problems with the analytical events associated with this report are noted below.



CalEnergy Operating Corporation
7030 Gentry Road
Calipatria, CA 92233
TEL: (760) 348-4200 FAX: (760) 348-4222
Website: www.calenergy.com

Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/16/2019 12:07:00 PM
Project: DVC Quarterly MW
Lab ID: 1908032-001 **Matrix:** GROUNDWATER
Client Sample ID: W 01

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE							
Specific Conductivity							
	11790	10.00	10.00		µS/cm	1	08/16/19 2:40 PM
DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY							
pH	6.67	1.00	1.00		pH Units	1	08/16/19 2:40 PM
DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)							
Turbidity	0.28	0.0200	0.0200		NTU	1	08/16/19 2:40 PM
DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES							
Sodium	1750	1.68	5.04		mg/L	40	08/22/19 7:58 AM
DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER							
Antimony	ND	0.123	0.369	U	µg/L	10	08/21/19 2:51 PM
Arsenic	5.46	0.319	0.957		µg/L	10	08/21/19 2:51 PM
Barium	32.0	0.195	0.585		µg/L	10	08/21/19 2:51 PM
Beryllium	ND	0.215	0.645	U	µg/L	10	08/21/19 2:51 PM
Cadmium	0.260	0.201	0.603	J	µg/L	10	08/21/19 2:51 PM
Chromium	3.86	0.325	0.975		µg/L	10	08/21/19 2:51 PM
Cobalt	0.560	0.0390	0.120		µg/L	10	08/21/19 2:51 PM
Copper	39.6	0.135	0.405		µg/L	10	08/21/19 2:51 PM
Lead	ND	0.0280	0.0840	U	µg/L	10	08/21/19 2:51 PM
Manganese	28.0	0.185	0.555		µg/L	10	08/21/19 2:51 PM
Molybdenum	13.4	0.102	0.306		µg/L	10	08/21/19 2:51 PM
Nickel	18.3	0.157	0.471		µg/L	10	08/21/19 2:51 PM
Selenium	16.1	0.959	2.88		µg/L	10	08/21/19 2:51 PM
Silver	0.670	0.235	0.705	J	µg/L	10	08/21/19 2:51 PM
Thallium	ND	0.0945	0.284	U	µg/L	10	08/21/19 2:51 PM
Vanadium	ND	0.287	0.861	U	µg/L	10	08/21/19 2:51 PM
Zinc	9.08	1.24	3.72		µg/L	10	08/21/19 2:51 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Calipatria, CA 92233
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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/16/2019 12:07:00 PM
Project: DVC Quarterly MW
Lab ID: 1908032-001 **Matrix:** GROUNDWATER
Client Sample ID: W 01

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW							
ANIONS BY ION-CHROMATOGRAPHY (IC)							
Chloride	3160	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
Sulfate	1880	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
DVC QUARTERLY MW							
GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE							
Residue, Dissolved	8145	10.00	10.00	mg/L	1	08/16/19 3:20 PM	

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/15/2019 11:50:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-002 **Matrix:** GROUNDWATER
Client Sample ID: W 09A

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE							
Specific Conductivity							
	11530	10.00	10.00		µS/cm	1	08/16/19 2:40 PM
DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY							
pH	6.42	1.00	1.00		pH Units	1	08/16/19 2:40 PM
DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)							
Turbidity	4.49	0.0200	0.0200		NTU	1	08/16/19 2:40 PM
DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES							
Sodium	1510	1.68	5.04		mg/L	40	08/22/19 8:00 AM
DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER							
Antimony	ND	0.123	0.369	U	µg/L	10	08/21/19 2:56 PM
Arsenic	15.5	0.319	0.957		µg/L	10	08/21/19 2:56 PM
Barium	21.1	0.195	0.585		µg/L	10	08/21/19 2:56 PM
Beryllium	ND	0.215	0.645	U	µg/L	10	08/21/19 2:56 PM
Cadmium	0.220	0.201	0.603	J	µg/L	10	08/21/19 2:56 PM
Chromium	1.50	0.325	0.975		µg/L	10	08/21/19 2:56 PM
Cobalt	1.38	0.0390	0.120		µg/L	10	08/21/19 2:56 PM
Copper	21.2	0.135	0.405		µg/L	10	08/21/19 2:56 PM
Lead	ND	0.0280	0.0840	U	µg/L	10	08/21/19 2:56 PM
Manganese	960	0.185	0.555		µg/L	10	08/21/19 2:56 PM
Molybdenum	24.9	0.102	0.306		µg/L	10	08/21/19 2:56 PM
Nickel	24.8	0.157	0.471		µg/L	10	08/21/19 2:56 PM
Selenium	17.3	0.959	2.88		µg/L	10	08/21/19 2:56 PM
Silver	7.24	0.235	0.705		µg/L	10	08/21/19 2:56 PM
Thallium	ND	0.0945	0.284	U	µg/L	10	08/21/19 2:56 PM
Vanadium	ND	0.287	0.861	U	µg/L	10	08/21/19 2:56 PM
Zinc	4.59	1.24	3.72		µg/L	10	08/21/19 2:56 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



CalEnergy Operating Corporation
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Website: www.calenergy.com

Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/15/2019 11:50:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-002 **Matrix:** GROUNDWATER
Client Sample ID: W 09A

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW							
ANIONS BY ION-CHROMATOGRAPHY (IC)							
Chloride	3210	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
Sulfate	2140	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
DVC QUARTERLY MW							
GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE							
Residue, Dissolved	8790	10.00	10.00	mg/L	1	08/16/19 3:20 PM	

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/15/2019 10:25:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-003 **Matrix:** GROUNDWATER
Client Sample ID: W 10A

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE							
Specific Conductivity							
	13720	10.00	10.00		µS/cm	1	08/16/19 2:40 PM
DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY							
pH	6.28	1.00	1.00		pH Units	1	08/16/19 2:40 PM
DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)							
Turbidity	1.03	0.0200	0.0200		NTU	1	08/16/19 2:40 PM
DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES							
Sodium	1850	1.68	5.04		mg/L	40	08/22/19 8:01 AM
DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER							
Antimony	ND	0.123	0.369	U	µg/L	10	08/21/19 3:01 PM
Arsenic	16.7	0.319	0.957		µg/L	10	08/21/19 3:01 PM
Barium	25.0	0.195	0.585		µg/L	10	08/21/19 3:01 PM
Beryllium	ND	0.215	0.645	U	µg/L	10	08/21/19 3:01 PM
Cadmium	ND	0.201	0.603	U	µg/L	10	08/21/19 3:01 PM
Chromium	2.08	0.325	0.975		µg/L	10	08/21/19 3:01 PM
Cobalt	1.25	0.0390	0.120		µg/L	10	08/21/19 3:01 PM
Copper	28.3	0.135	0.405		µg/L	10	08/21/19 3:01 PM
Lead	ND	0.0280	0.0840	U	µg/L	10	08/21/19 3:01 PM
Manganese	978	0.185	0.555		µg/L	10	08/21/19 3:01 PM
Molybdenum	15.6	0.102	0.306		µg/L	10	08/21/19 3:01 PM
Nickel	28.1	0.157	0.471		µg/L	10	08/21/19 3:01 PM
Selenium	18.9	0.959	2.88		µg/L	10	08/21/19 3:01 PM
Silver	8.19	0.235	0.705		µg/L	10	08/21/19 3:01 PM
Thallium	ND	0.0945	0.284	U	µg/L	10	08/21/19 3:01 PM
Vanadium	ND	0.287	0.861	U	µg/L	10	08/21/19 3:01 PM
Zinc	3.88	1.24	3.72		µg/L	10	08/21/19 3:01 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



CalEnergy Operating Corporation
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TEL: (760) 348-4200 FAX: (760) 348-4222
Website: www.calenergy.com

Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/15/2019 10:25:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-003 **Matrix:** GROUNDWATER
Client Sample ID: W 10A

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW							
ANIONS BY ION-CHROMATOGRAPHY (IC)							
Chloride	3920	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
Sulfate	2130	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
DVC QUARTERLY MW							
GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE							
Residue, Dissolved	9740	10.00	10.00	mg/L	1	08/16/19 3:20 PM	

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



CalEnergy Operating Corporation
7030 Gentry Road
Calipatria, CA 92233
TEL: (760) 348-4200 FAX: (760) 348-4222
Website: www.calenergy.com

Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/16/2019 1:20:00 PM
Project: DVC Quarterly MW
Lab ID: 1908032-004 **Matrix:** GROUNDWATER
Client Sample ID: W 11

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE							
Specific Conductivity							
	11950	10.00	10.00		µS/cm	1	08/16/19 2:40 PM
DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY							
pH	6.69	1.00	1.00		pH Units	1	08/16/19 2:40 PM
DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)							
Turbidity	156	0.0200	0.0200		NTU	1	08/16/19 2:40 PM
DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES							
Sodium	1570	1.68	5.04		mg/L	40	08/22/19 8:02 AM
DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER							
Antimony	0.220	0.123	0.369	J	µg/L	10	08/21/19 3:16 PM
Arsenic	48.7	0.319	0.957		µg/L	10	08/21/19 3:16 PM
Barium	21.2	0.195	0.585		µg/L	10	08/21/19 3:16 PM
Beryllium	ND	0.215	0.645	U	µg/L	10	08/21/19 3:16 PM
Cadmium	ND	0.201	0.603	U	µg/L	10	08/21/19 3:16 PM
Chromium	2.02	0.325	0.975		µg/L	10	08/21/19 3:16 PM
Cobalt	1.83	0.0390	0.120		µg/L	10	08/21/19 3:16 PM
Copper	27.0	0.135	0.405		µg/L	10	08/21/19 3:16 PM
Lead	ND	0.0280	0.0840	U	µg/L	10	08/21/19 3:16 PM
Manganese	724	0.185	0.555		µg/L	10	08/21/19 3:16 PM
Molybdenum	32.9	0.102	0.306		µg/L	10	08/21/19 3:16 PM
Nickel	25.7	0.157	0.471		µg/L	10	08/21/19 3:16 PM
Selenium	18.2	0.959	2.88		µg/L	10	08/21/19 3:16 PM
Silver	9.91	0.235	0.705		µg/L	10	08/21/19 3:16 PM
Thallium	ND	0.0945	0.284	U	µg/L	10	08/21/19 3:16 PM
Vanadium	ND	0.287	0.861	U	µg/L	10	08/21/19 3:16 PM
Zinc	3.36	1.24	3.72	J	µg/L	10	08/21/19 3:16 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/16/2019 1:20:00 PM
Project: DVC Quarterly MW
Lab ID: 1908032-004 **Matrix:** GROUNDWATER
Client Sample ID: W 11

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW							
ANIONS BY ION-CHROMATOGRAPHY (IC)							
Chloride	3270	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
Sulfate	2160	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
DVC QUARTERLY MW							
GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE							
Residue, Dissolved	8400	10.00	10.00	mg/L	1	08/16/19 3:20 PM	

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/16/2019 1:10:00 PM
Project: DVC Quarterly MW
Lab ID: 1908032-005 **Matrix:** GROUNDWATER
Client Sample ID: W 12

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE							
Specific Conductivity							
	12470	10.00	10.00		µS/cm	1	08/16/19 2:40 PM
DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY							
pH	6.63	1.00	1.00		pH Units	1	08/16/19 2:40 PM
DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)							
Turbidity	0.69	0.0200	0.0200		NTU	1	08/16/19 2:40 PM
DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES							
Sodium	1670	1.68	5.04		mg/L	40	08/22/19 8:03 AM
DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER							
Antimony	ND	0.123	0.369	U	µg/L	10	08/21/19 3:21 PM
Arsenic	9.04	0.319	0.957		µg/L	10	08/21/19 3:21 PM
Barium	20.4	0.195	0.585		µg/L	10	08/21/19 3:21 PM
Beryllium	ND	0.215	0.645	U	µg/L	10	08/21/19 3:21 PM
Cadmium	0.570	0.201	0.603	J	µg/L	10	08/21/19 3:21 PM
Chromium	2.08	0.325	0.975		µg/L	10	08/21/19 3:21 PM
Cobalt	1.20	0.0390	0.120		µg/L	10	08/21/19 3:21 PM
Copper	23.9	0.135	0.405		µg/L	10	08/21/19 3:21 PM
Lead	ND	0.0280	0.0840	U	µg/L	10	08/21/19 3:21 PM
Manganese	420	0.185	0.555		µg/L	10	08/21/19 3:21 PM
Molybdenum	22.6	0.102	0.306		µg/L	10	08/21/19 3:21 PM
Nickel	25.3	0.157	0.471		µg/L	10	08/21/19 3:21 PM
Selenium	18.1	0.959	2.88		µg/L	10	08/21/19 3:21 PM
Silver	1.68	0.235	0.705		µg/L	10	08/21/19 3:21 PM
Thallium	ND	0.0945	0.284	U	µg/L	10	08/21/19 3:21 PM
Vanadium	ND	0.287	0.861	U	µg/L	10	08/21/19 3:21 PM
Zinc	15.6	1.24	3.72		µg/L	10	08/21/19 3:21 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/16/2019 1:10:00 PM
Project: DVC Quarterly MW
Lab ID: 1908032-005 **Matrix:** GROUNDWATER
Client Sample ID: W 12

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW							
ANIONS BY ION-CHROMATOGRAPHY (IC)							
Chloride	3470	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
Sulfate	2040	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
DVC QUARTERLY MW							
GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE							
Residue, Dissolved	8775	10.00	10.00	mg/L	1	08/16/19 3:20 PM	

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/16/2019 10:25:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-006 **Matrix:** GROUNDWATER
Client Sample ID: W 302

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE							
Specific Conductivity	6800	10.00	10.00		µS/cm	1	08/16/19 2:40 PM
DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY							
pH	7.06	1.00	1.00		pH Units	1	08/16/19 2:40 PM
DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)							
Turbidity	8.16	0.0200	0.0200		NTU	1	08/16/19 2:40 PM
DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES							
Sodium	1130	1.68	5.04		mg/L	40	08/22/19 8:03 AM
DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER							
Antimony	ND	0.0615	0.184	U	µg/L	5	08/21/19 3:26 PM
Arsenic	6.52	0.160	0.478		µg/L	5	08/21/19 3:26 PM
Barium	18.6	0.0975	0.292		µg/L	5	08/21/19 3:26 PM
Beryllium	ND	0.108	0.322	U	µg/L	5	08/21/19 3:26 PM
Cadmium	ND	0.100	0.302	U	µg/L	5	08/21/19 3:26 PM
Chromium	1.44	0.162	0.488		µg/L	5	08/21/19 3:26 PM
Cobalt	0.220	0.0195	0.0600		µg/L	5	08/21/19 3:26 PM
Copper	14.7	0.0675	0.202		µg/L	5	08/21/19 3:26 PM
Lead	ND	0.0140	0.0420	U	µg/L	5	08/21/19 3:26 PM
Manganese	243	0.0925	0.278		µg/L	5	08/21/19 3:26 PM
Molybdenum	13.1	0.0510	0.153		µg/L	5	08/21/19 3:26 PM
Nickel	6.45	0.0785	0.236		µg/L	5	08/21/19 3:26 PM
Selenium	9.11	0.480	1.44		µg/L	5	08/21/19 3:26 PM
Silver	1.10	0.118	0.353		µg/L	5	08/21/19 3:26 PM
Thallium	ND	0.0472	0.142	U	µg/L	5	08/21/19 3:26 PM
Vanadium	ND	0.144	0.430	U	µg/L	5	08/21/19 3:26 PM
Zinc	1.54	0.620	1.86	J	µg/L	5	08/21/19 3:26 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/16/2019 10:25:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-006 **Matrix:** GROUNDWATER
Client Sample ID: W 302

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW							
ANIONS BY ION-CHROMATOGRAPHY (IC)							
Chloride	1730	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
Sulfate	948	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
DVC QUARTERLY MW							
GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE							
Residue, Dissolved	4375	10.00	10.00	mg/L	1	08/16/19 3:20 PM	

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/14/2019 10:00:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-007 **Matrix:** GROUNDWATER
Client Sample ID: W 305

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE							
Specific Conductivity							
	6520	10.00	10.00		µS/cm	1	08/16/19 2:40 PM
DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY							
pH	7.17	1.00	1.00		pH Units	1	08/16/19 2:40 PM
DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)							
Turbidity	0.51	0.0200	0.0200		NTU	1	08/16/19 2:40 PM
DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES							
Sodium	1110	1.68	5.04		mg/L	40	08/22/19 8:07 AM
DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER							
Antimony	ND	0.0615	0.184	U	µg/L	5	08/21/19 3:41 PM
Arsenic	3.88	0.160	0.478		µg/L	5	08/21/19 3:41 PM
Barium	18.2	0.0975	0.292		µg/L	5	08/21/19 3:41 PM
Beryllium	ND	0.108	0.322	U	µg/L	5	08/21/19 3:41 PM
Cadmium	ND	0.100	0.302	U	µg/L	5	08/21/19 3:41 PM
Chromium	1.46	0.162	0.488		µg/L	5	08/21/19 3:41 PM
Cobalt	0.255	0.0195	0.0600		µg/L	5	08/21/19 3:41 PM
Copper	14.4	0.0675	0.202		µg/L	5	08/21/19 3:41 PM
Lead	ND	0.0140	0.0420	U	µg/L	5	08/21/19 3:41 PM
Manganese	47.0	0.0925	0.278		µg/L	5	08/21/19 3:41 PM
Molybdenum	13.5	0.0510	0.153		µg/L	5	08/21/19 3:41 PM
Nickel	5.48	0.0785	0.236		µg/L	5	08/21/19 3:41 PM
Selenium	8.15	0.480	1.44		µg/L	5	08/21/19 3:41 PM
Silver	0.465	0.118	0.353		µg/L	5	08/21/19 3:41 PM
Thallium	ND	0.0472	0.142	U	µg/L	5	08/21/19 3:41 PM
Vanadium	9.22	0.144	0.430		µg/L	5	08/21/19 3:41 PM
Zinc	1.13	0.620	1.86	J	µg/L	5	08/21/19 3:41 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/14/2019 10:00:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-007 **Matrix:** GROUNDWATER
Client Sample ID: W 305

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW							
ANIONS BY ION-CHROMATOGRAPHY (IC)							
Chloride	1590	2.00		10.0	mg/L	100	08/17/19 7:15 AM
Sulfate	889	2.00		10.0	mg/L	100	08/17/19 7:15 AM
DVC QUARTERLY MW							
GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE							
Residue, Dissolved	4177		10.00	10.00	mg/L	1	08/16/19 3:20 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/16/2019 8:47:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-008 **Matrix:** GROUNDWATER
Client Sample ID: W 306

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE							
Specific Conductivity							
	3460	10.00	10.00		µS/cm	1	08/16/19 2:40 PM
DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY							
pH	7.61	1.00	1.00		pH Units	1	08/16/19 2:40 PM
DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)							
Turbidity	0.84	0.0200	0.0200		NTU	1	08/16/19 2:40 PM
DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES							
Sodium	659	1.68	5.04		mg/L	40	08/22/19 8:07 AM
DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER							
Antimony	ND	0.0615	0.184	U	µg/L	5	08/21/19 3:46 PM
Arsenic	2.18	0.160	0.478		µg/L	5	08/21/19 3:46 PM
Barium	25.8	0.0975	0.292		µg/L	5	08/21/19 3:46 PM
Beryllium	ND	0.108	0.322	U	µg/L	5	08/21/19 3:46 PM
Cadmium	ND	0.100	0.302	U	µg/L	5	08/21/19 3:46 PM
Chromium	1.40	0.162	0.488		µg/L	5	08/21/19 3:46 PM
Cobalt	0.0800	0.0195	0.0600		µg/L	5	08/21/19 3:46 PM
Copper	8.47	0.0675	0.202		µg/L	5	08/21/19 3:46 PM
Lead	ND	0.0140	0.0420	U	µg/L	5	08/21/19 3:46 PM
Manganese	21.3	0.0925	0.278		µg/L	5	08/21/19 3:46 PM
Molybdenum	21.9	0.0510	0.153		µg/L	5	08/21/19 3:46 PM
Nickel	2.04	0.0785	0.236		µg/L	5	08/21/19 3:46 PM
Selenium	6.78	0.480	1.44		µg/L	5	08/21/19 3:46 PM
Silver	ND	0.118	0.353	U	µg/L	5	08/21/19 3:46 PM
Thallium	ND	0.0472	0.142	U	µg/L	5	08/21/19 3:46 PM
Vanadium	0.890	0.144	0.430		µg/L	5	08/21/19 3:46 PM
Zinc	1.74	0.620	1.86	J	µg/L	5	08/21/19 3:46 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/16/2019 8:47:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-008 **Matrix:** GROUNDWATER
Client Sample ID: W 306

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW							
ANIONS BY ION-CHROMATOGRAPHY (IC)							
Chloride	804	2.00		10.0	mg/L	100	08/17/19 7:15 AM
Sulfate	323	2.00		10.0	mg/L	100	08/17/19 7:15 AM
DVC QUARTERLY MW							
GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE							
Residue, Dissolved	2008		10.00	10.00	mg/L	1	08/16/19 3:20 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/15/2019 8:00:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-009 **Matrix:** GROUNDWATER
Client Sample ID: W 307

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE							
Specific Conductivity							
	6290	10.00	10.00		µS/cm	1	08/16/19 2:40 PM
DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY							
pH	7.21	1.00	1.00		pH Units	1	08/16/19 2:40 PM
DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)							
Turbidity	0.75	0.0200	0.0200		NTU	1	08/16/19 2:40 PM
DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES							
Sodium	1070	1.68	5.04		mg/L	40	08/22/19 8:10 AM
DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER							
Antimony	0.190	0.0615	0.184		µg/L	5	08/21/19 3:51 PM
Arsenic	4.19	0.160	0.478		µg/L	5	08/21/19 3:51 PM
Barium	19.7	0.0975	0.292		µg/L	5	08/21/19 3:51 PM
Beryllium	ND	0.108	0.322	U	µg/L	5	08/21/19 3:51 PM
Cadmium	ND	0.100	0.302	U	µg/L	5	08/21/19 3:51 PM
Chromium	1.36	0.162	0.488		µg/L	5	08/21/19 3:51 PM
Cobalt	0.340	0.0195	0.0600		µg/L	5	08/21/19 3:51 PM
Copper	13.0	0.0675	0.202		µg/L	5	08/21/19 3:51 PM
Lead	ND	0.0140	0.0420	U	µg/L	5	08/21/19 3:51 PM
Manganese	2.06	0.0925	0.278		µg/L	5	08/21/19 3:51 PM
Molybdenum	24.8	0.0510	0.153		µg/L	5	08/21/19 3:51 PM
Nickel	16.6	0.0785	0.236		µg/L	5	08/21/19 3:51 PM
Selenium	29.4	0.480	1.44		µg/L	5	08/21/19 3:51 PM
Silver	ND	0.118	0.353	U	µg/L	5	08/21/19 3:51 PM
Thallium	ND	0.0472	0.142	U	µg/L	5	08/21/19 3:51 PM
Vanadium	2.07	0.144	0.430		µg/L	5	08/21/19 3:51 PM
Zinc	1.70	0.620	1.86	J	µg/L	5	08/21/19 3:51 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Website: www.calenergy.com

Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/15/2019 8:00:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-009 **Matrix:** GROUNDWATER
Client Sample ID: W 307

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW							
ANIONS BY ION-CHROMATOGRAPHY (IC)							
Chloride	1490	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
Sulfate	945	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
DVC QUARTERLY MW							
GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE							
Residue, Dissolved	4044	10.00	10.00	mg/L	1	08/16/19 3:20 PM	

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/14/2019 7:42:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-010 **Matrix:** GROUNDWATER
Client Sample ID: W 308

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE							
Specific Conductivity							
	5720	10.00	10.00		µS/cm	1	08/16/19 2:40 PM
DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY							
pH	7.32	1.00	1.00		pH Units	1	08/16/19 2:40 PM
DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)							
Turbidity	0.20	0.0200	0.0200		NTU	1	08/16/19 2:40 PM
DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES							
Sodium	977	1.68	5.04		mg/L	40	08/22/19 8:11 AM
DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER							
Antimony	0.190	0.0615	0.184		µg/L	5	08/21/19 4:06 PM
Arsenic	3.18	0.160	0.478		µg/L	5	08/21/19 4:06 PM
Barium	21.7	0.0975	0.292		µg/L	5	08/21/19 4:06 PM
Beryllium	ND	0.108	0.322	U	µg/L	5	08/21/19 4:06 PM
Cadmium	ND	0.100	0.302	U	µg/L	5	08/21/19 4:06 PM
Chromium	1.54	0.162	0.488		µg/L	5	08/21/19 4:06 PM
Cobalt	0.215	0.0195	0.0600		µg/L	5	08/21/19 4:06 PM
Copper	13.3	0.0675	0.202		µg/L	5	08/21/19 4:06 PM
Lead	ND	0.0140	0.0420	U	µg/L	5	08/21/19 4:06 PM
Manganese	2.66	0.0925	0.278		µg/L	5	08/21/19 4:06 PM
Molybdenum	26.2	0.0510	0.153		µg/L	5	08/21/19 4:06 PM
Nickel	5.79	0.0785	0.236		µg/L	5	08/21/19 4:06 PM
Selenium	12.2	0.480	1.44		µg/L	5	08/21/19 4:06 PM
Silver	0.620	0.118	0.353		µg/L	5	08/21/19 4:06 PM
Thallium	ND	0.0472	0.142	U	µg/L	5	08/21/19 4:06 PM
Vanadium	1.77	0.144	0.430		µg/L	5	08/21/19 4:06 PM
Zinc	2.57	0.620	1.86		µg/L	5	08/21/19 4:06 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/14/2019 7:42:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-010 **Matrix:** GROUNDWATER
Client Sample ID: W 308

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW							
ANIONS BY ION-CHROMATOGRAPHY (IC)							
Chloride	1350	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
Sulfate	813	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
DVC QUARTERLY MW							
GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE							
Residue, Dissolved	3574	10.00	10.00	mg/L	1	08/16/19 3:20 PM	

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/14/2019 11:10:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-011 **Matrix:** GROUNDWATER
Client Sample ID: W 309

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE							
Specific Conductivity							
	6530	10.00	10.00		µS/cm	1	08/16/19 2:40 PM
DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY							
pH	7.08	1.00	1.00		pH Units	1	08/16/19 2:40 PM
DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)							
Turbidity	0.49	0.0200	0.0200		NTU	1	08/16/19 2:40 PM
DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES							
Sodium	1110	1.68	5.04		mg/L	40	08/22/19 8:11 AM
DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER							
Antimony	ND	0.0615	0.184	U	µg/L	5	08/21/19 4:16 PM
Arsenic	3.94	0.160	0.478		µg/L	5	08/21/19 4:16 PM
Barium	16.7	0.0975	0.292		µg/L	5	08/21/19 4:16 PM
Beryllium	ND	0.108	0.322	U	µg/L	5	08/21/19 4:16 PM
Cadmium	ND	0.100	0.302	U	µg/L	5	08/21/19 4:16 PM
Chromium	2.16	0.162	0.488		µg/L	5	08/21/19 4:16 PM
Cobalt	0.215	0.0195	0.0600		µg/L	5	08/21/19 4:16 PM
Copper	13.2	0.0675	0.202		µg/L	5	08/21/19 4:16 PM
Lead	ND	0.0140	0.0420	U	µg/L	5	08/21/19 4:16 PM
Manganese	0.265	0.0925	0.278	J	µg/L	5	08/21/19 4:16 PM
Molybdenum	21.2	0.0510	0.153		µg/L	5	08/21/19 4:16 PM
Nickel	13.9	0.0785	0.236		µg/L	5	08/21/19 4:16 PM
Selenium	24.5	0.480	1.44		µg/L	5	08/21/19 4:16 PM
Silver	0.195	0.118	0.353	J	µg/L	5	08/21/19 4:16 PM
Thallium	ND	0.0472	0.142	U	µg/L	5	08/21/19 4:16 PM
Vanadium	6.34	0.144	0.430		µg/L	5	08/21/19 4:16 PM
Zinc	1.84	0.620	1.86	J	µg/L	5	08/21/19 4:16 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/14/2019 11:10:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-011 **Matrix:** GROUNDWATER
Client Sample ID: W 309

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW							
ANIONS BY ION-CHROMATOGRAPHY (IC)							
Chloride	1560	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
Sulfate	969	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
DVC QUARTERLY MW							
GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE							
Residue, Dissolved	4138	10.00	10.00	mg/L	1	08/16/19 3:20 PM	

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/14/2019 7:42:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-012 **Matrix:** GROUNDWATER
Client Sample ID: W 308Duplicate

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW MEASUREMENT OF CONDUCTANCE							
Specific Conductivity							
	5720	10.00	10.00		µS/cm	1	08/16/19 2:40 PM
DVC QUARTERLY MW PH IN WATER BY POTENTIOMETRY							
pH	7.35	1.00	1.00		pH Units	1	08/16/19 2:40 PM
DVC QUARTERLY MW TURBIDITY (NEPHELOMETRIC)							
Turbidity	0.20	0.0200	0.0200		NTU	1	08/16/19 2:40 PM
DVC QUARTERLY MW TRACE ELEMENTS IN WATER AND WASTES BY ICP-OES							
Sodium	983	1.68	5.04		mg/L	40	08/22/19 8:13 AM
DVC QUARTERLY MW DETERMINATION OF TOXIC CHEMICAL ELEMENTS IN WATER							
Antimony	0.100	0.0615	0.184	J	µg/L	5	08/21/19 4:11 PM
Arsenic	2.58	0.160	0.478		µg/L	5	08/21/19 4:11 PM
Barium	20.7	0.0975	0.292		µg/L	5	08/21/19 4:11 PM
Beryllium	ND	0.108	0.322	U	µg/L	5	08/21/19 4:11 PM
Cadmium	ND	0.100	0.302	U	µg/L	5	08/21/19 4:11 PM
Chromium	1.19	0.162	0.488		µg/L	5	08/21/19 4:11 PM
Cobalt	0.180	0.0195	0.0600		µg/L	5	08/21/19 4:11 PM
Copper	11.6	0.0675	0.202		µg/L	5	08/21/19 4:11 PM
Lead	ND	0.0140	0.0420	U	µg/L	5	08/21/19 4:11 PM
Manganese	2.84	0.0925	0.278		µg/L	5	08/21/19 4:11 PM
Molybdenum	24.8	0.0510	0.153		µg/L	5	08/21/19 4:11 PM
Nickel	5.49	0.0785	0.236		µg/L	5	08/21/19 4:11 PM
Selenium	11.0	0.480	1.44		µg/L	5	08/21/19 4:11 PM
Silver	0.170	0.118	0.353	J	µg/L	5	08/21/19 4:11 PM
Thallium	ND	0.0472	0.142	U	µg/L	5	08/21/19 4:11 PM
Vanadium	1.77	0.144	0.430		µg/L	5	08/21/19 4:11 PM
Zinc	1.64	0.620	1.86	J	µg/L	5	08/21/19 4:11 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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Analytical Report
(consolidated)
WO#: 1908032
Date Reported: 9/16/2019

CLIENT: CalEnergy **Collection Date:** 8/14/2019 7:42:00 AM
Project: DVC Quarterly MW
Lab ID: 1908032-012 **Matrix:** GROUNDWATER
Client Sample ID: W 308Duplicate

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DVC QUARTERLY MW							
ANIONS BY ION-CHROMATOGRAPHY (IC)							
Chloride	1320	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
Sulfate	798	2.00	10.0	mg/L	100	08/17/19 7:15 AM	
DVC QUARTERLY MW							
GRAVIMETRIC DETERMINATION OF FILTERABLE RESIDUE							
Residue, Dissolved	3596	10.00	10.00	mg/L	1	08/16/19 3:20 PM	

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
N Tentatively identified compounds
PL Permit Limit
RL Reporting Detection Limit

U Samples with CalcVal < MDL.
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
T Retest Qualifiers for FC



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QC SUMMARY REPORT

WO#: 1908032
16-Sep-19

Client: CalEnergy
Project: DVC Quarterly MW

TestCode: 2510B_CONDUCTIVITY

Sample ID: 1908032-002BDUP	SampType: DUP	TestCode: 2510B_COND	Units: $\mu\text{S}/\text{cm}$	Prep Date:	RunNo: 33505						
Client ID: W 09A	Batch ID: R33505	TestNo: A2510B		Analysis Date: 8/16/2019	SeqNo: 250504						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductivity	11510	10.00				11530			0.174		10

Sample ID: 1908032-010BDUP	SampType: DUP	TestCode: 2510B_COND	Units: $\mu\text{S}/\text{cm}$	Prep Date:	RunNo: 33505						
Client ID: W 308	Batch ID: R33505	TestNo: A2510B		Analysis Date: 8/16/2019	SeqNo: 250513						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductivity	5720	10.00				5720			0		10

TestCode: 4500-H+B

Sample ID: 1908032-001BDUP	SampType: DUP	TestCode: 4500-H+B	Units: pH Units	Prep Date:	RunNo: 33505						
Client ID: W 01	Batch ID: R33505	TestNo: A4500-H+B		Analysis Date: 8/16/2019	SeqNo: 250486						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.66	1.00				6.670			0.150		10

Qualifiers: H Holding times for preparation or analysis exceeded
PL Permit Limit
S Spike Recovery outside accepted recovery limits
J Analyte detected below quantitation limits
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode
ND Not Detected at the Reporting Limit
S MBLK SampType result is greater than 1/2 PQL.

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QC SUMMARY REPORT

WO#: 1908032
16-Sep-19

Client: CalEnergy
Project: DVC Quarterly MW

Sample ID: 1908032-002BDUP	SampType: DUP	TestCode: 4500-H+B	Units: pH Units	Prep Date:	RunNo: 33505
Client ID: W 09A	Batch ID: R33505	TestNo: A4500-H+B		Analysis Date: 8/16/2019	SeqNo: 250488
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual					
pH	6.43	1.00		6.420	0.156 10

Sample ID: 1908032-010BDUP	SampType: DUP	TestCode: 4500-H+B	Units: pH Units	Prep Date:	RunNo: 33505
Client ID: W 308	Batch ID: R33505	TestNo: A4500-H+B		Analysis Date: 8/16/2019	SeqNo: 250497
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual					
pH	7.35	1.00		7.320	0.409 10

TestCode: EPA_180.1

Sample ID: 1908032-002BDUP	SampType: DUP	TestCode: EPA_180.1	Units: NTU	Prep Date:	RunNo: 33505
Client ID: W 09A	Batch ID: R33505	TestNo: E180.1		Analysis Date: 8/16/2019	SeqNo: 250520
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual					
Turbidity	4.67	0.0200		4.490	3.93 15

Sample ID: 1908032-010BDUP	SampType: DUP	TestCode: EPA_180.1	Units: NTU	Prep Date:	RunNo: 33505
Client ID: W 308	Batch ID: R33505	TestNo: E180.1		Analysis Date: 8/16/2019	SeqNo: 250529
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual					
Turbidity	0.200	0.0200		0.2000	0 15

Qualifiers:	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit	S	MBLK SampType result is greater than 1/2 PQL.
	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as specified at testcode		

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QC SUMMARY REPORT

WO#: 1908032
16-Sep-19

Client: CalEnergy
Project: DVC Quarterly MW

Sample ID: 1908032-010BDUP	SampType: DUP	TestCode: EPA_180.1	Units: NTU	Prep Date:	RunNo: 33505
Client ID: W 308	Batch ID: R33505	TestNo: E180.1		Analysis Date: 8/16/2019	SeqNo: 250529
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

TestCode: EPA_200.7

Sample ID: LFB	SampType: LFB	TestCode: EPA_200.7	Units: mg/L	Prep Date:	RunNo: 33452
Client ID: BatchQC	Batch ID: R33452	TestNo: E200.7		Analysis Date: 8/22/2019	SeqNo: 249108
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sodium	15.1	0.126	15.00	0	100 85 115

Sample ID: FB	SampType: FB	TestCode: EPA_200.7	Units: mg/L	Prep Date:	RunNo: 33452
Client ID: BatchQC	Batch ID: R33452	TestNo: E200.7		Analysis Date: 8/22/2019	SeqNo: 249111
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sodium	ND	0.126			U

Sample ID: 1908032-001AMS	SampType: MS	TestCode: EPA_200.7	Units: mg/L	Prep Date:	RunNo: 33452
Client ID: W 01	Batch ID: R33452	TestNo: E200.7		Analysis Date: 8/22/2019	SeqNo: 249113
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sodium	1950	5.04	200.0	1750	100 75 125

Qualifiers:	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit	S	MBLK SampType result is greater than 1/2 PQL.
	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as specified at testcode		

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QC SUMMARY REPORT

WO#: 1908032
16-Sep-19

Client: CalEnergy
Project: DVC Quarterly MW

Sample ID:	1908032-001AMSD	SampType:	MSD	TestCode:	EPA_200.7	Units:	mg/L	Prep Date:		RunNo:	33452	
Client ID:	W 01	Batch ID:	R33452	TestNo:	E200.7			Analysis Date:	8/22/2019	SeqNo:	249114	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium		1950	5.04	200.0	1750	100	75	125	1951	0.0166	20	
Sample ID:	1908032-008AMS		SampType:	MS	TestCode:	EPA_200.7	Units:	mg/L	Prep Date:		RunNo:	33452
Client ID:	W 306		Batch ID:	R33452	TestNo:	E200.7			Analysis Date:	8/22/2019	SeqNo:	249125
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium		868	5.04	200.0	659.0	104	75	125				
Sample ID:	1908032-008AMSD		SampType:	MSD	TestCode:	EPA_200.7	Units:	mg/L	Prep Date:		RunNo:	33452
Client ID:	W 306		Batch ID:	R33452	TestNo:	E200.7			Analysis Date:	8/22/2019	SeqNo:	249126
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium		862	5.04	200.0	659.0	102	75	125	868.0	0.678	20	
Sample ID:	1908032-011ADUP		SampType:	DUP	TestCode:	EPA_200.7	Units:	mg/L	Prep Date:		RunNo:	33452
Client ID:	W 309		Batch ID:	R33452	TestNo:	E200.7			Analysis Date:	8/22/2019	SeqNo:	249130
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium		1110	5.04						1115	0.00857	15	

Qualifiers: H Holding times for preparation or analysis exceeded
PL Permit Limit
S Spike Recovery outside accepted recovery limits
J Analyte detected below quantitation limits
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode
ND Not Detected at the Reporting Limit
S MBLK SampType result is greater than 1/2 PQL.

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7030 Gentry Road
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Website: www.calenergy.com

QC SUMMARY REPORT

WO#: 1908032
16-Sep-19

Client: CalEnergy
Project: DVC Quarterly MW

TestCode: EPA_200.8- MW FULL

Sample ID: LCS	SampType: LCS	TestCode: EPA_200.8-	Units: µg/L	Prep Date:			RunNo: 33541				
Client ID: LCSW	Batch ID: R33541	TestNo: E200.8		Analysis Date: 8/21/2019			SeqNo: 251919				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.2	0.0369	50.00	0	96.3	90	110				
Arsenic	48.4	0.0957	50.00	0	96.9	90	110				
Barium	48.2	0.0585	50.00	0	96.4	90	110				
Beryllium	48.8	0.0645	50.00	0	97.6	90	110				
Cadmium	48.2	0.0603	50.00	0	96.5	90	110				
Chromium	48.0	0.0975	50.00	0	96.0	90	110				
Cobalt	48.0	0.0120	50.00	0	96.0	90	110				
Copper	48.5	0.0405	50.00	0	97.0	90	110				
Lead	49.9	0.00840	50.00	0	99.7	90	110				
Manganese	48.0	0.0555	50.00	0	95.9	90	110				
Molybdenum	48.3	0.0306	50.00	0	96.6	90	110				
Nickel	48.0	0.0471	50.00	0	96.1	90	110				
Selenium	47.8	0.288	50.00	0	95.6	90	110				
Silver	48.0	0.0705	50.00	0	95.9	90	110				
Thallium	50.2	0.0284	50.00	0	100	90	110				
Vanadium	48.0	0.0861	50.00	0	96.0	90	110				
Zinc	48.3	0.372	50.00	0	96.6	90	110				

Sample ID: Field blank	SampType: FB	TestCode: EPA_200.8-	Units: µg/L	Prep Date:			RunNo: 33541				
Client ID: BatchQC	Batch ID: R33541	TestNo: E200.8		Analysis Date: 8/21/2019			SeqNo: 251921				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: H Holding times for preparation or analysis exceeded
PL Permit Limit
S Spike Recovery outside accepted recovery limits
J Analyte detected below quantitation limits
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode
ND Not Detected at the Reporting Limit
S MBLK SampType result is greater than 1/2 PQL.

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Website: www.calenergy.com

QC SUMMARY REPORT

WO#: 1908032
16-Sep-19

Client: CalEnergy
Project: DVC Quarterly MW

Sample ID: Field blank	SampType: FB	TestCode: EPA_200.8-	Units: µg/L	Prep Date:	RunNo: 33541						
Client ID: BatchQC	Batch ID: R33541	TestNo: E200.8		Analysis Date: 8/21/2019	SeqNo: 251921						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.0369									U
Arsenic	ND	0.0957									U
Barium	0.0460	0.0585									J
Beryllium	ND	0.0645									U
Cadmium	ND	0.0603									U
Chromium	0.0440	0.0975									J
Cobalt	ND	0.0120									U
Copper	ND	0.0405									U
Lead	0.00300	0.00840									J
Manganese	0.0770	0.0555									
Molybdenum	0.0510	0.0306									
Nickel	ND	0.0471									U
Selenium	ND	0.288									U
Silver	0.0530	0.0705									J
Thallium	ND	0.0284									U
Vanadium	ND	0.0861									U
Zinc	0.426	0.372									

Sample ID: 1908032-003AMS	SampType: MS	TestCode: EPA_200.8-	Units: µg/L	Prep Date:	RunNo: 33541						
Client ID: W 10A	Batch ID: R33541	TestNo: E200.8		Analysis Date: 8/21/2019	SeqNo: 251925						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	503	0.369	500.0	0	101	75	125				
Arsenic	564	0.957	500.0	16.72	109	75	125				

Qualifiers:	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit	S	MBLK SampType result is greater than 1/2 PQL.
	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as specified at testcode		

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QC SUMMARY REPORT

WO#: 1908032
16-Sep-19

Client: CalEnergy
Project: DVC Quarterly MW

Sample ID: 1908032-003AMS	SampType: MS	TestCode: EPA_200.8-	Units: µg/L	Prep Date:			RunNo: 33541		
Client ID: W 10A	Batch ID: R33541	TestNo: E200.8		Analysis Date: 8/21/2019			SeqNo: 251925		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Barium	528	0.585	500.0	24.98	101	75	125		
Beryllium	432	0.645	500.0	0	86.3	75	125		
Cadmium	470	0.603	500.0	0	94.0	75	125		
Chromium	465	0.975	500.0	2.080	92.5	75	125		
Cobalt	451	0.120	500.0	1.250	89.9	75	125		
Copper	486	0.405	500.0	28.30	91.6	75	125		
Lead	459	0.0840	500.0	0	91.8	75	125		
Manganese	1400	0.555	500.0	978.2	83.4	75	125		
Molybdenum	594	0.306	500.0	15.57	116	75	125		
Nickel	450	0.471	500.0	28.07	84.4	75	125		
Selenium	528	2.88	500.0	18.93	102	75	125		
Silver	424	0.705	500.0	8.190	83.2	75	125		
Thallium	472	0.284	500.0	0	94.4	75	125		
Vanadium	495	0.861	500.0	0	99.0	75	125		
Zinc	457	3.72	500.0	3.880	90.6	75	125		

Sample ID: 1908032-003AMSD	SampType: MSD	TestCode: EPA_200.8-	Units: µg/L	Prep Date:			RunNo: 33541		
Client ID: W 10A	Batch ID: R33541	TestNo: E200.8		Analysis Date: 8/21/2019			SeqNo: 251926		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Antimony	500	0.369	500.0	0	100	75	125	502.7	0.537 15
Arsenic	560	0.957	500.0	16.72	109	75	125	564.2	0.688 15
Barium	523	0.585	500.0	24.98	99.6	75	125	527.9	0.961 15
Beryllium	432	0.645	500.0	0	86.4	75	125	431.7	0.0648 15

Qualifiers:	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits			ND	Not Detected at the Reporting Limit		
	PL	Permit Limit	RL	Reporting Detection Limit			S	MBLK SampType result is greater than 1/2 PQL.		
	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as specified at testcode						

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QC SUMMARY REPORT

WO#: 1908032
16-Sep-19

Client: CalEnergy
Project: DVC Quarterly MW

Sample ID: 1908032-003AMSD		SampType: MSD	TestCode: EPA_200.8-		Units: µg/L	Prep Date:			RunNo: 33541			
Client ID:	W 10A	Batch ID: R33541	TestNo: E200.8			Analysis Date: 8/21/2019			SeqNo: 251926			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium		469	0.603	500.0	0	93.7	75	125	470.1	0.311	15	
Chromium		463	0.975	500.0	2.080	92.1	75	125	464.8	0.455	15	
Cobalt		448	0.120	500.0	1.250	89.4	75	125	450.9	0.569	15	
Copper		490	0.405	500.0	28.30	92.4	75	125	486.3	0.764	15	
Lead		456	0.0840	500.0	0	91.3	75	125	459.0	0.588	15	
Manganese		1390	0.555	500.0	978.2	82.3	75	125	1395	0.387	15	
Molybdenum		595	0.306	500.0	15.57	116	75	125	594.5	0.0975	15	
Nickel		449	0.471	500.0	28.07	84.3	75	125	450.2	0.156	15	
Selenium		521	2.88	500.0	18.93	100	75	125	527.6	1.23	15	
Silver		432	0.705	500.0	8.190	84.8	75	125	424.3	1.81	15	
Thallium		471	0.284	500.0	0	94.1	75	125	471.9	0.248	15	
Vanadium		492	0.861	500.0	0	98.4	75	125	495.0	0.618	15	
Zinc		455	3.72	500.0	3.880	90.1	75	125	456.8	0.483	15	

Sample ID: 1908032-009AMS		SampType: MS	TestCode: EPA_200.8-		Units: µg/L	Prep Date:			RunNo: 33541			
Client ID:	W 307	Batch ID: R33541	TestNo: E200.8			Analysis Date: 8/21/2019			SeqNo: 251935			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		253	0.184	250.0	0.1900	101	75	125				
Arsenic		271	0.478	250.0	4.185	107	75	125				
Barium		263	0.292	250.0	19.71	97.3	75	125				
Beryllium		232	0.322	250.0	0	92.6	75	125				
Cadmium		232	0.302	250.0	0	92.8	75	125				
Chromium		232	0.488	250.0	1.360	92.1	75	125				

Qualifiers:	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit	S	MBLK SampType result is greater than 1/2 PQL.
	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as specified at testcode		

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QC SUMMARY REPORT

WO#: 1908032
16-Sep-19

Client: CalEnergy
Project: DVC Quarterly MW

Sample ID: 1908032-009AMS	SampType: MS	TestCode: EPA_200.8-	Units: µg/L	Prep Date:			RunNo: 33541				
Client ID: W 307	Batch ID: R33541	TestNo: E200.8		Analysis Date: 8/21/2019			SeqNo: 251935				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	225	0.0600	250.0	0.3400	89.9	75	125				
Copper	236	0.202	250.0	13.03	89.2	75	125				
Lead	224	0.0420	250.0	0	89.5	75	125				
Manganese	227	0.278	250.0	2.065	90.1	75	125				
Molybdenum	300	0.153	250.0	24.76	110	75	125				
Nickel	226	0.236	250.0	16.58	83.7	75	125				
Selenium	280	1.44	250.0	29.44	100	75	125				
Silver	201	0.353	250.0	0	80.3	75	125				
Thallium	229	0.142	250.0	0	91.5	75	125				
Vanadium	248	0.430	250.0	2.070	98.6	75	125				
Zinc	228	1.86	250.0	1.700	90.5	75	125				

Sample ID: 1908032-009AMSD	SampType: MSD	TestCode: EPA_200.8-	Units: µg/L	Prep Date:			RunNo: 33541				
Client ID: W 307	Batch ID: R33541	TestNo: E200.8		Analysis Date: 8/21/2019			SeqNo: 251936				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	260	0.184	250.0	0.1900	104	75	125	252.6	2.86	15	
Arsenic	277	0.478	250.0	4.185	109	75	125	270.7	2.34	15	
Barium	271	0.292	250.0	19.71	101	75	125	262.9	3.05	15	
Beryllium	238	0.322	250.0	0	95.3	75	125	231.6	2.81	15	
Cadmium	240	0.302	250.0	0	96.1	75	125	232.0	3.46	15	
Chromium	237	0.488	250.0	1.360	94.2	75	125	231.7	2.18	15	
Cobalt	230	0.0600	250.0	0.3400	91.7	75	125	225.0	1.98	15	
Copper	243	0.202	250.0	13.03	91.9	75	125	236.1	2.81	15	

Qualifiers:	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit	S	MBLK SampType result is greater than 1/2 PQL.
	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as specified at testcode		

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QC SUMMARY REPORT

WO#: 1908032
16-Sep-19

Client: CalEnergy
Project: DVC Quarterly MW

Sample ID: 1908032-009AMSD		SampType: MSD	TestCode: EPA_200.8-		Units: $\mu\text{g/L}$	Prep Date:			RunNo: 33541			
Client ID:	W 307	Batch ID: R33541	TestNo: E200.8		Analysis Date: 8/21/2019			SeqNo: 251936				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		230	0.0420	250.0	0	92.2	75	125	223.9	2.87	15	
Manganese		232	0.278	250.0	2.065	92.1	75	125	227.2	2.17	15	
Molybdenum		310	0.153	250.0	24.76	114	75	125	300.1	3.10	15	
Nickel		232	0.236	250.0	16.58	86.3	75	125	225.8	2.82	15	
Selenium		285	1.44	250.0	29.44	102	75	125	279.6	2.06	15	
Silver		210	0.353	250.0	0	83.8	75	125	200.9	4.23	15	
Thallium		235	0.142	250.0	0	94.1	75	125	228.8	2.74	15	
Vanadium		254	0.430	250.0	2.070	101	75	125	248.5	2.05	15	
Zinc		234	1.86	250.0	1.700	93.0	75	125	228.0	2.70	15	

TestCode: EPA_300.0

Sample ID: 1908032-002B MS		SampType: MS	TestCode: EPA_300.0		Units: mg/L	Prep Date:			RunNo: 33476			
Client ID:	W 09A	Batch ID: R33476	TestNo: E300.0		Analysis Date: 8/17/2019			SeqNo: 249662				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		5200	10.0	2000	3215	99.4	80	120				
Sulfate		4150	10.0	2000	2143	101	80	120				

Sample ID: 1908032-002B MSD		SampType: MSD	TestCode: EPA_300.0		Units: mg/L	Prep Date:			RunNo: 33476			
Client ID:	W 09A	Batch ID: R33476	TestNo: E300.0		Analysis Date: 8/17/2019			SeqNo: 249663				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits				ND	Not Detected at the Reporting Limit		
	PL	Permit Limit	RL	Reporting Detection Limit				S	MBLK SampType result is greater than 1/2 PQL.		
	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as specified at testcode							

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QC SUMMARY REPORT

WO#: 1908032
16-Sep-19

Client: CalEnergy
Project: DVC Quarterly MW

Sample ID: 1908032-002B MSD		SampType: MSD	TestCode: EPA_300.0		Units: mg/L	Prep Date:			RunNo: 33476			
Client ID: W 09A		Batch ID: R33476	TestNo: E300.0			Analysis Date: 8/17/2019			SeqNo: 249663			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		5190	10.0	2000	3215	98.7	80	120	5202	0.275	10	
Sulfate		4140	10.0	2000	2143	99.9	80	120	4154	0.316	10	
Sample ID: 1908032-009B MS		SampType: MS	TestCode: EPA_300.0		Units: mg/L	Prep Date:			RunNo: 33476			
Client ID: W 307		Batch ID: R33476	TestNo: E300.0			Analysis Date: 8/17/2019			SeqNo: 249671			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		3470	10.0	2000	1485	99.4	80	120				
Sulfate		2960	10.0	2000	945.3	101	80	120				
Sample ID: 1908032-009B MSD		SampType: MSD	TestCode: EPA_300.0		Units: mg/L	Prep Date:			RunNo: 33476			
Client ID: W 307		Batch ID: R33476	TestNo: E300.0			Analysis Date: 8/17/2019			SeqNo: 249672			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		3470	10.0	2000	1485	99.4	80	120	3474	0.0210	10	
Sulfate		2960	10.0	2000	945.3	101	80	120	2958	0.00845	10	
Sample ID: 1908032-011B dup		SampType: DUP	TestCode: EPA_300.0		Units: mg/L	Prep Date:			RunNo: 33476			
Client ID: W 309		Batch ID: R33476	TestNo: E300.0			Analysis Date: 8/17/2019			SeqNo: 249675			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits			ND	Not Detected at the Reporting Limit			
	PL	Permit Limit	RL	Reporting Detection Limit			S	MBLK SampType result is greater than 1/2 PQL.			
	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as specified at testcode							

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QC SUMMARY REPORT

WO#: 1908032
16-Sep-19

Client: CalEnergy
Project: DVC Quarterly MW

Sample ID:	1908032-011B dup	SampType:	DUP	TestCode:	EPA_300.0	Units:	mg/L	Prep Date:		RunNo:	33476	
Client ID:	W 309	Batch ID:	R33476	TestNo:	E300.0 <th></th> <th></th> <th>Analysis Date:</th> <td>8/17/2019</td> <th>SeqNo:</th> <td>249675</td>			Analysis Date:	8/17/2019	SeqNo:	249675	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		1550	10.0						1563	0.818	10	
Sulfate		965	10.0						968.7	0.414	10	

Sample ID:	Field Blank	SampType:	FB	TestCode:	EPA_300.0	Units:	mg/L	Prep Date:		RunNo:	33476	
Client ID:	BatchQC	Batch ID:	R33476	TestNo:	E300.0 <th></th> <th></th> <th>Analysis Date:</th> <td>8/17/2019</td> <th>SeqNo:</th> <td>249683</td>			Analysis Date:	8/17/2019	SeqNo:	249683	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		ND	0.100									U
Sulfate		ND	0.100									U

Sample ID:	LCS	SampType:	LCS	TestCode:	EPA_300.0	Units:	mg/L	Prep Date:		RunNo:	33476	
Client ID:	LCSW	Batch ID:	R33476	TestNo:	E300.0 <th></th> <th></th> <th>Analysis Date:</th> <td>8/17/2019</td> <th>SeqNo:</th> <td>249686</td>			Analysis Date:	8/17/2019	SeqNo:	249686	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		20.0	0.100	20.00	0	100	90	110				
Sulfate		20.1	0.100	20.00	0	101	90	110				

TestCode: TDS

Qualifiers:	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit	S	MBLK SampType result is greater than 1/2 PQL.
	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as specified at testcode		

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QC SUMMARY REPORT

WO#: 1908032
16-Sep-19

Client: CalEnergy
Project: DVC Quarterly MW

Sample ID: R33460FB	SampType: FB	TestCode: TDS	Units: mg/L	Prep Date:	RunNo: 33460
Client ID: BatchQC	Batch ID: R33460	TestNo: A2540C		Analysis Date: 8/16/2019	SeqNo: 249315
<hr/>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPD Limit Qual
Residue, Dissolved	ND	10.00			U

Sample ID: 1908032-011BDUP	SampType: DUP	TestCode: TDS	Units: mg/L	Prep Date:	RunNo: 33460
Client ID: W 309	Batch ID: R33460	TestNo: A2540C		Analysis Date: 8/16/2019	SeqNo: 249329
<hr/>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPD Limit Qual
Residue, Dissolved	4158	10.00			4138 0.482 5

Qualifiers:	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
PL	Permit Limit	RL Reporting Detection Limit	S MBLK SampType result is greater than 1/2 PQL.
S	Spike Recovery outside accepted recovery limits	W Sample container temperature is out of limit as specified at testcode	

Original

Page 39 of 39

Analytical Services Department

7030 Gentry Road, Calipatria, CA 92233

Tel: (760) 348-4250

Fax: (760) 348-4222

CHAIN OF CUSTODY RECORD

DATE: 8-14-19

PAGE: 1 OF 3

CUSTOMER/LOCATION: DVC					
ADDRESS:					
CITY:					
TEL:	FAX:	E-MAIL:			
TURNAROUND TIME: <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS <input type="checkbox"/> 14 DAYS <input type="checkbox"/>					

SPECIAL REQUIREMENTS:
 RWQCB REPORTING ARCHIVE SAMPLES UNTIL / /

SPECIAL INSTRUCTIONS:

WO # **184 1908032**

SAMPLE ID	LOCATION / DESCRIPTION	SAMPLING		Matrix	Preser- ative	# Cont- ainers	PH	Conductivity	Turbidity	TDS	EPA 200.8 (As, Ba, Cd, Pb, Zn)	EPA 200.7 (Na)	EPA 300.0 (chloride, sulfate)
		DATE	TIME										
-007	W 305	8-14-19	10:00	L	Y	1					X X		
	W 305	8-14-19	10:00	L	N	2	X	X	X	X		X	
	W 308	8-14-19	7:42	L	Y	1					X X		
-010	W 308 Dup	8-14-19	7:42	L	N	2	X	X	X	X		X	
	W 309	8-14-19	11:10	L	Y	1					X X		
-011	W 309	8-14-19	11:10	L	N	2	X	X	X	X			X

RELINQUISHED BY: (SIGNATURE) Samantha Mill	RECEIVED BY: (SIGNATURE)	DATE: 8-16-19	TIME: 14:30
RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	DATE:	TIME:
RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	DATE:	TIME:



Analytical Services Department

7030 Gentry Road, Calipatria, CA 92233

Tel: (760) 348-4250

Fax: (760) 348-4222

CHAIN OF CUSTODY RECORD

DATE: 8-16-19

PAGE: 3 OF 3

Analytical Services Department

7030 Gentry Road, Calipatria, CA 92233

Tel: (760) 348-4250

Fax: (760) 348-4222

CHAIN OF CUSTODY RECORD

DATE: 8-15-19

PAGE: 2 OF 3

CUSTOMER/LOCATION: DVC			CUSTOMER PROJECT NAME/NUMBER: DVC Monitoring Wells 3rd Qtr 2019			P.O. NO.:
ADDRESS:			PROJECT CONTACT: Jenny Wu			CHARGE TO:
CITY:			SAMPLER(S) (SIGNATURE) <i>Samantha Melt Ringler</i>			LAB USE ONLY:
TEL:	FAX:	E-MAIL:				COC# No 3541
TURNAROUND TIME: <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS <input type="checkbox"/> 14 DAYS <input type="checkbox"/>						REQUESTED ANALYSIS

SPECIAL REQUIREMENTS:
 RWQCB REPORTING ARCHIVE SAMPLES UNTIL ____ / ____ / ____

SPECIAL INSTRUCTIONS:

WO # 1908032

SAMPLE ID	LOCATION / DESCRIPTION	SAMPLING		Matrix	Preser- ative	# Contain- ers	PH	Conductivity	Turbidity	TDS	EPA 200.8 (As, Ba, Cd, Pb, Zn)	EPA 200.7 (Na)	EPA 300.0 (chloride, sulfate)
		DATE	TIME										
-002	W 09A	8-15-19	11:50	L	Y	1					X X		
	W 09A	8-15-19	11:50				X X	X X	X X	X X		X	
-003	W 10A	8-15-19	10:25	L	Y	1					X X		
	W 10A	8-15-19	10:25				X X	X X	X X	X X			
-009	W 307	8-15-19	8:00	L	Y	1					X X		
	W 307	8-15-19	8:00				X X	X X	X X	X X			

RELINQUISHED BY: (SIGNATURE) <i>Ringler</i>	RECEIVED BY: (SIGNATURE)	DATE: 8-16-19	TIME: 14:30
RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	DATE:	TIME:
RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	DATE:	TIME:

DVC Radiological Analysis - 3rd Quarter 2019 (pCi/L)

W01				W09A			
Date	8/16/2019	CSU	MDA	Date	8/15/2019	CSU	MDA
Gross Alpha	-6.40	40.6	95.1	Gross Alpha	83.8	41.6	62.9
Gross Beta	-4.59	35.1	75.3	Gross Beta	46.3	34.8	67.2

W10A				W11			
Date	8/15/2019	CSU	MDA	Date	8/16/2019	CSU	MDA
Gross Alpha	26.8	32.4	64.1	Gross Alpha	36.1	26.7	43.3
Gross Beta	37.5	32.4	64.1	Gross Beta	-18.8	31.4	69.4

W12				W302			
Date	8/16/2019	CSU	MDA	Date	8/16/2019	CSU	MDA
Gross Alpha	-27.4	37.4	94.2	Gross Alpha	22.2	14.8	22.8
Gross Beta	44.7	36.2	71.5	Gross Beta	11.3	14.2	29.0

W305				W306			
Date	8/14/2019	CSU	MDA	Date	8/16/2019	CSU	MDA
Gross Alpha	37.2	23.4	39.1	Gross Alpha	7.22	11.9	24.8
Gross Beta	33.4	32.8	65.7	Gross Beta	5.66	11.7	24.2

W307				W308			
Date	8/15/2019	CSU	MDA	Date	8/14/2019	CSU	MDA
Gross Alpha	14.5	11.5	17.8	Gross Alpha	-12.2	15.8	40.5
Gross Beta	33.8	16.4	29.5	Gross Beta	21.7	17.0	33.3

W309				W308 Duplicate			
Date	8/14/2019	CSU	MDA	Date	8/14/2019	CSU	MDA
Gross Alpha	35.1	24.9	43.4	Gross Alpha	4.32	13.5	30.3
Gross Beta	19.7	30.8	63.4	Gross Beta	10.1	15.5	31.9

CSU = Combined Standard Uncertainty (2-sigma)

MDA = Minimal Detected Activity

pCi/L = picocuries per liter



EBERLINE ANALYTICAL CORPORATION
601 SCARBORO ROAD
OAK RIDGE, TENNESSEE 37830
PHONE (865) 481-0683
FAX (865) 483-4621

EBS-OR-46205

October 16, 2019

Orval Osborne
CalEnergy Operating Corporation
7030 Gentry Road
Calipatria, CA 92233

CASE NARRATIVE
Work Order # 19-09043-OR

SAMPLE RECEIPT

This work order contains thirteen water samples received 09/04/2019. Samples were analyzed for Gross Alpha/Beta.

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>CLIENT ID</u>	<u>LAB ID</u>
W 01	19-09043-04	W 306	19-09043-11
W 09A	19-09043-05	W 307	19-09043-12
W 10A	19-09043-06	W 308	19-09043-13
W 11	19-09043-07	W 309	19-09043-14
W 12	19-09043-08	W 308 Duplicate	19-09043-15
W 302	19-09043-09	LAB Field Blank	19-09043-16
W 305	19-09043-10		

ANALYTICAL METHODS

Gross Alpha/Beta was performed using EPA Method 900.0 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 1-sigma value.

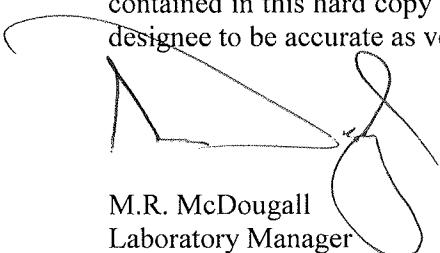
Minimum Detectable Activity (MDA) values for data represented in this report are sample-specific. MDA measurements are determined based on factors and conditions including instrument settings, aliquot size and matrix type.

GROSS ALPHA/BETA

Samples demonstrated acceptable results for all Gross Alpha and Beta analyses. Most sample results demonstrated slightly high method detection limits due to high total solids content. The Gross Alpha and Beta method blank demonstrated acceptable results. Results for the Gross Alpha duplicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Gross Beta duplicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Gross Alpha and Beta laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.



M.R. McDougall
Laboratory Manager

Date: 10/16/2019

Eberline Analytical wants and encourages your feedback regarding our performance providing radioanalytical services. Please visit <http://eberlineanalytical.com/> to provide us with feedback on our services.

Eberline Analytical

Final Report of Analysis

		Report To:					Work Order Details:						
		Orval Osborne					SDG:	19-09043					
		CalEnergy Operating Corp					Purchase Order:	265610					
		7030 Gentry Road					Analysis Category:	ENVIRONMENTAL					
		Calipatria, CA 92233					Sample Matrix:	WA					
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
19-09043-01	LCS	KNOWN	09/09/19 00:00	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	2.68E+02	1.15E+01			pCi/l
19-09043-01	LCS	SPIKE	09/09/19 00:00	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	3.10E+02	3.88E+00	3.41E+01	2.87E-01	pCi/l
19-09043-02	MBL	BLANK	09/09/19 00:00	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	4.01E-01	2.14E-01	2.18E-01	3.68E-01	pCi/l
19-09043-03	DUP	W 01	08/16/19 12:07	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	-1.30E+01	3.61E+01	3.61E+01	8.84E+01	pCi/l
19-09043-04	DO	W 01	08/16/19 12:07	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	-6.40E+00	4.06E+01	4.06E+01	9.51E+01	pCi/l
19-09043-05	TRG	W 09A	08/15/19 11:50	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	8.38E+01	4.06E+01	4.16E+01	6.29E+01	pCi/l
19-09043-06	TRG	W 10A	08/15/19 10:25	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	2.68E+01	3.22E+01	3.24E+01	6.41E+01	pCi/l
19-09043-07	TRG	W 11	08/16/19 13:20	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	3.61E+01	2.64E+01	2.67E+01	4.33E+01	pCi/l
19-09043-08	TRG	W 12	08/16/19 13:10	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	-2.74E+01	3.73E+01	3.74E+01	9.42E+01	pCi/l
19-09043-09	TRG	W 302	08/16/19 10:25	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	2.22E+01	1.46E+01	1.48E+01	2.28E+01	pCi/l
19-09043-10	TRG	W 305	08/14/19 10:00	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	3.72E+01	2.31E+01	2.34E+01	3.91E+01	pCi/l
19-09043-11	TRG	W 306	08/16/19 08:47	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	7.22E+00	1.19E+01	1.19E+01	2.48E+01	pCi/l
19-09043-12	TRG	W 307	08/15/19 08:00	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	1.45E+01	1.14E+01	1.15E+01	1.78E+01	pCi/l
19-09043-13	TRG	W 308	08/14/19 07:42	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	-1.22E+01	1.58E+01	1.58E+01	4.05E+01	pCi/l
19-09043-14	TRG	W 309	08/14/19 11:10	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	3.51E+01	2.46E+01	2.49E+01	4.34E+01	pCi/l
19-09043-15	TRG	W 308 Duplicate	08/14/19 07:42	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	4.32E+00	1.35E+01	1.35E+01	3.03E+01	pCi/l
19-09043-16	TRG	LAB Field Blank	08/14/19 07:15	9/4/2019	9/27/2019	19-09043	Gross Alpha	EPA 900.0 Modified	2.66E-01	8.25E-01	8.26E-01	1.81E+00	pCi/l

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (1-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



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601 SCARBORO ROAD OAK RIDGE, TN 37830 865/481-0683 FAX 865/483-4621

Eberline Analytical Final Report of Analysis			Report To:				Work Order Details:							
			Orval Osborne				SDG:	19-09043						
			CalEnergy Operating Corp				Purchase Order:	265610						
			7030 Gentry Road				Analysis Category:	ENVIRONMENTAL						
			Calipatria, CA 92233				Sample Matrix:	WA						
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units	
19-09043-01	LCS	KNOWN	09/09/19 00:00	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	2.67E+02	8.00E+00			pCi/l	
19-09043-01	LCS	SPIKE	09/09/19 00:00	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	3.06E+02	3.20E+00	4.25E+01	5.34E-01	pCi/l	
19-09043-02	MBL	BLANK	09/09/19 00:00	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	-1.39E-01	3.25E-01	3.25E-01	6.94E-01	pCi/l	
19-09043-03	DUP	W 01	08/16/19 12:07	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	-3.59E+00	3.35E+01	3.35E+01	7.20E+01	pCi/l	
19-09043-04	DO	W 01	08/16/19 12:07	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	-4.59E+00	3.51E+01	3.51E+01	7.53E+01	pCi/l	
19-09043-05	TRG	W 09A	08/15/19 11:50	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	4.63E+01	3.42E+01	3.48E+01	6.72E+01	pCi/l	
19-09043-06	TRG	W 10A	08/15/19 10:25	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	3.75E+01	3.20E+01	3.24E+01	6.41E+01	pCi/l	
19-09043-07	TRG	W 11	08/16/19 13:20	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	-1.88E+01	3.13E+01	3.14E+01	6.94E+01	pCi/l	
19-09043-08	TRG	W 12	08/16/19 13:10	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	4.47E+01	3.57E+01	3.62E+01	7.15E+01	pCi/l	
19-09043-09	TRG	W 302	08/16/19 10:25	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	1.13E+01	1.42E+01	1.42E+01	2.90E+01	pCi/l	
19-09043-10	TRG	W 305	08/14/19 10:00	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	3.34E+01	3.25E+01	3.28E+01	6.57E+01	pCi/l	
19-09043-11	TRG	W 306	08/16/19 08:47	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	5.66E+00	1.16E+01	1.17E+01	2.42E+01	pCi/l	
19-09043-12	TRG	W 307	08/15/19 08:00	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	3.38E+01	1.57E+01	1.64E+01	2.95E+01	pCi/l	
19-09043-13	TRG	W 308	08/14/19 07:42	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	2.17E+01	1.67E+01	1.70E+01	3.33E+01	pCi/l	
19-09043-14	TRG	W 309	08/14/19 11:10	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	1.97E+01	3.07E+01	3.08E+01	6.34E+01	pCi/l	
19-09043-15	TRG	W 308 Duplicate	08/14/19 07:42	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	1.01E+01	1.54E+01	1.55E+01	3.19E+01	pCi/l	
19-09043-16	TRG	LAB Field Blank	08/14/19 07:15	9/4/2019	9/27/2019	19-09043	Gross Beta	EPA 900.0 Modified	4.61E-01	1.34E+00	1.34E+00	2.81E+00	pCi/l	

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (1-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



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Chain of Custody Record

Nº 1604

Eberline Services
601 Scarboro Road
Oak Ridge, TN 37830
(865) 481-0683 Phone • (865) 483-4621 Fax



EBERLINE
SERVICES

Project Name: DVC Monitoring Wells		Project Number:		<i>REC'D SEP 04 2019</i> 195-09043 <i>195-090421B</i> <small>Purchase Order # 265610</small>				
Send Report To: Orval Osborne		Sampler (Print Name):						
Address: 7030 Gentry Road Calipatria, CA 92233		Sampler (Print Name): Shipment Method:						
		Airbill Number:						
Phone: (760) 604-4824		Laboratory Receiving:						
Fax:								
Field Sample ID	Sample Date	Sample Time	Sample Matrix	Number of Containers	Comments, Special Instructions, etc.	Lab Sample ID (to be completed by lab)		
W 01	8-16-19	12:07	GW	1	X X			
W 09A	8-15-19	11:50	GW	1	X X			
W 10A	8-15-19	10:25	GW	1	X X			
W 11	8-16-19	13:20	GW	1	X X			
W 12	8-16-19	13:10	GW	1	X X			
W 302	8-16-19	10:25	GW	1	X X			
W 305	8-14-19	10:00	GW	1	X X			
W 306	8-16-19	8:47	GW	1	X X			
W 307	8-15-19	8:00	GW	1	X X			
W 308	8-14-19	7:42	GW	1	X X			
W 309	8-14-19	11:10	GW	1	X X			
W 308 Duplicate	8-14-19	7:42	GW	1	X X			
Lab field blank	8-14-19	7:15	BLK	1	X X			
			BLK	1	X X			
Relinquished by: (Signature) <i>Samantha Mill</i>		Received by: (Signature) <i>Randolph Spencer</i>		Date: 9-4-19	Time: 14:10	Sample Custodian Remarks (Completed By Laboratory):		
Relinquished by: (Signature)		Received by: (Signature)		Date:	Time:	QA/QC Level	Turnaround	Sample Receipt
						Level I <input type="checkbox"/>	Routine <input type="checkbox"/>	Total # Containers Received?
						Level II <input type="checkbox"/>	24 Hour <input type="checkbox"/>	COC Seals Present?
						Level III <input type="checkbox"/>	1 Week <input type="checkbox"/>	COC Seals Intact?
						Other <input type="checkbox"/>	Other _____	Received Containers Intact?
								Temperature?

Attachment G

Part II C.1. & Part II.C.2. - Leachate Collection System Monitoring Data

Table: II.A.5. Cell 1 Leachate Collection System

Wednesday, October 23, 2019

Note: A "0" indicates that there was no liquid present.

	<i>Gallons</i>	<i>Leachate pH</i>			<i>Leachate Conductivity</i>		
		<i>Avg.</i>	<i>Max.</i>	<i>Min.</i>	<i>Avg.</i>	<i>Max.</i>	<i>Min.</i>
					<i>micromohs/cm</i>		
July 2019	95	6.6	6.6	6.6	101200	101200	101200
August 2019	160	6.4	6.4	6.3	106250	108300	104200
September 2019	50	6.1	6.1	6.1	117600	117600	117600
<i>Summary for Report</i>	305	6.3	6.6	6.1	107825	117600	101200

Table: II.A.5. Cell 2 Leachate Collection System

Wednesday, October 23, 2019

Note: A "0" indicates that there was no liquid present.

	<i>Gallons</i>	<i>Leachate pH</i>			<i>Leachate Conductivity</i>		
		<i>Avg.</i>	<i>Max.</i>	<i>Min.</i>	<i>Avg.</i>	<i>Max.</i>	<i>Min.</i>
					<i>micromohs/cm</i>		
July 2019	1525	4.8	4.8	4.8	241400	243100	239300
August 2019	2100	4.8	4.9	4.8	242680	243300	242300
September 2019	1370	4.9	4.9	4.9	243075	243600	242300
<i>Summary for Report</i>	4995	4.8	4.9	4.8	242408	243600	239300

Table: II.A.5. Cell 3 Leachate Collection System

Wednesday, October 23, 2019

Note: A "0" indicates that there was no liquid present.

	Leachate pH			Leachate Conductivity		
	Gallons	Avg.	Max. Min.	Avg.	Max.	Min.
July 2019		0				
August 2019		0				
September 2019		0				
Summary for Report		0				

Attachment H

Part II D.a. & Part II.D.b. - Leak Detection System Monitoring Data

Table: II.A.6. Cell 1 Leak Detection System

Wednesday, October 23, 2019

Note: A "0" indicates that there was no liquid present.

	Leachate pH			Leachate Conductivity		
	Gallons	Avg.	Max. Min.	Avg.	Max.	Min.
July 2019		0				
August 2019		0				
September 2019		0				
Summary for Report		0				

Table: II.A.6. Cell 2 Leak Detection System

Wednesday, October 23, 2019

Note: A "0" indicates that there was no liquid present.

	Leachate pH			Leachate Conductivity		
	Gallons	Avg.	Max. Min.	Avg.	Max.	Min.
July 2019		0				
August 2019		0				
September 2019		0				
Summary for Report		0				

Table: II.A.6. Cell 3 Leak Detection System

Wednesday, October 23, 2019

Note: A "0" indicates that there was no liquid present.

	Leachate pH			Leachate Conductivity		
	Gallons	Avg.	Max. Min.	Avg.	Max.	Min.
July 2019		0				
August 2019		0				
September 2019		0				
Summary for Report		0				

Attachment I

Part II E.a- Quarterly Vadose Zone Monitoring Data

DESERT VALLEY COMPANY
VADOSE MOISTURE REPORT
PIPE Z-2 NORTH

	1-Nov-2018	15-Mar-2019	19-Jun-2019	13-Sep-2019
DEPTH Feet	MOISTURE %	MOISTURE %	MOISTURE %	MOISTURE %
1	7.06	7.29	7.10	7.31
2	19.71	20.87	20.43	21.79
3	16.22	17.72	17.41	18.34
4	16.99	17.40	16.57	17.22
5	19.88	21.37	19.88	21.14
6	16.38	16.96	15.91	16.95
7	18.00	18.95	18.13	18.52
8	18.99	18.85	18.64	19.20
9	23.12	23.09	22.83	22.89
10	19.23	19.02	18.84	19.39
11	18.84	18.97	18.58	19.48
12	19.03	18.63	19.12	20.16
13	19.59	19.10	19.52	20.25
14	18.90	19.07	19.13	20.25
15	18.75	18.08	18.13	19.75
16	19.08	18.49	18.82	20.10
17	16.82	16.39	16.65	17.23
18	12.22	12.57	12.49	13.20
19	13.36	13.93	13.31	13.87
20	13.06	13.03	12.93	13.47
21	10.93	11.14	11.30	11.53
22	13.07	12.26	12.44	12.79
23	14.45	14.92	14.63	15.40
24	14.70	15.25	14.30	15.92
25	15.39	15.36	14.85	15.70
26	4.89	4.77	5.07	5.58
27	3.66	4.12	3.75	3.38
28	1.71	1.46	1.31	1.67
29	8.93	9.62	9.09	9.07
30	6.59	6.86	6.64	7.44
31	8.55	8.44	7.98	8.88
32	6.34	6.20	6.19	6.55
33	3.21	3.52	3.16	3.27
34	7.57	7.16	7.83	8.29
35	11.04	11.33	11.05	11.35

DESERT VALLEY COMPANY
VADOSE MOISTURE REPORT
PIPE Z-2 NORTH

DEPTH Feet	1-Nov-2018 MOISTURE %	15-Mar-2019 MOISTURE %	19-Jun-2019 MOISTURE %	13-Sep-2019 MOISTURE %
36	7.97	8.52	8.14	8.77
37	3.48	3.85	3.51	4.15
38	7.36	7.48	6.80	7.67
39	5.79	5.77	5.79	6.21
40	8.59	8.56	7.80	8.43
41	12.47	11.23	11.24	11.86
42	17.08	17.26	16.85	18.57
43	15.32	14.03	14.01	14.27
44	16.98	15.54	16.74	15.73
45	14.96	12.21	11.89	12.55
46	17.70	14.76	13.94	14.65
47	17.37	15.86	15.02	15.40
48	18.19	15.08	14.14	14.62
49	18.45	16.02	14.86	15.87
50	24.21	22.01	21.50	22.06
51	N/A	N/A	22.49	22.87
52	N/A	N/A	16.90	16.84
53	N/A	N/A	24.71	24.73
54	N/A	N/A	22.25	23.30
55	N/A	N/A	20.29	20.51
56	N/A	N/A	25.54	25.89
57	N/A	N/A	25.69	26.88
58	N/A	N/A	25.09	26.29
59	N/A	N/A	25.00	25.80
60	N/A	N/A	26.72	27.39
61	N/A	N/A	26.04	26.62
62	N/A	N/A	26.07	25.70
63	N/A	N/A	28.93	28.67
64	N/A	N/A	N/A	N/A
65	N/A	N/A	N/A	N/A
66	N/A	N/A	N/A	N/A

N/A - Not Available

DESERT VALLEY COMPANY
VADOSE MOISTURE REPORT
PIPE Z-3 EAST

	1-Nov-2018	15-Mar-2019	19-Jun-2019	12-Sep-2019
DEPTH Feet	MOISTURE %	MOISTURE %	MOISTURE %	MOISTURE %
1	11.42	15.14	14.66	13.48
2	11.64	14.31	13.41	13.52
3	16.29	19.18	18.25	17.87
4	17.74	18.90	18.73	19.11
5	19.80	20.04	19.62	20.25
6	17.11	16.93	16.51	17.26
7	18.55	18.64	18.03	19.40
8	18.88	19.03	18.36	19.60
9	18.72	18.41	17.91	18.42
10	20.03	20.07	20.21	20.83
11	20.85	21.56	20.99	21.49
12	21.90	22.13	21.90	22.39
13	21.74	21.53	21.58	21.62
14	19.43	19.35	19.20	19.77
15	20.28	20.33	19.94	20.19
16	25.78	25.61	26.45	26.20
17	23.95	24.03	23.93	24.49
18	22.40	22.10	21.39	22.20
19	19.68	19.79	20.15	19.79
20	20.53	20.48	19.82	20.73
21	21.40	21.33	20.86	21.43
22	11.04	11.37	11.21	11.58
23	8.37	8.57	8.72	8.51
24	12.50	12.89	12.73	12.84
25	13.12	13.69	13.52	13.41
26	12.47	12.59	12.86	12.81
27	16.55	17.19	17.06	17.57
28	8.98	8.97	8.84	9.12
29	10.90	10.84	10.93	11.34
30	13.17	13.47	13.43	13.94
31	20.18	20.29	20.67	20.84
32	20.73	20.61	20.40	21.45
33	20.71	21.54	21.24	21.41
34	18.32	18.16	18.26	19.00
35	17.05	17.61	17.80	17.99

DESERT VALLEY COMPANY
VADOSE MOISTURE REPORT
PIPE Z-3 EAST

DEPTH Feet	1-Nov-2018 MOISTURE %	15-Mar-2019 MOISTURE %	19-Jun-2019 MOISTURE %	12-Sep-2019 MOISTURE %
36	20.07	21.30	20.69	21.15
37	22.54	22.08	22.77	22.93
38	20.82	21.34	20.84	21.42
39	21.11	21.41	20.95	21.22
40	20.87	21.74	21.16	21.23
41	21.33	21.64	21.50	21.59
42	20.04	20.79	20.40	21.25
43	21.27	21.44	21.30	22.52
44	22.31	22.61	22.39	23.12
45	21.80	21.98	21.60	22.22
46	19.78	20.31	19.76	20.65
47	16.14	16.14	16.41	16.33
48	18.57	19.21	18.97	19.16
49	21.54	22.21	22.07	22.71
50	21.31	21.88	21.29	22.08
51	19.51	20.03	19.55	20.05
52	13.96	14.16	14.40	14.32
53	17.65	17.87	17.64	18.10
54	22.27	22.32	22.26	22.85
55	17.52	17.57	17.26	17.62
56	20.54	19.99	20.05	20.07
57	22.17	21.72	21.61	21.83
58	12.90	13.52	13.21	13.65
59	17.10	17.26	16.90	17.56
60	17.27	16.90	16.87	17.73
61	15.04	15.27	15.34	15.77
62	15.79	15.91	15.56	16.15
63	14.32	14.17	14.71	14.90
64	16.31	16.80	16.54	16.94
65	16.94	17.34	17.21	18.00
66	20.47	20.77	20.57	21.10

DESERT VALLEY COMPANY
VADOSE MOISTURE REPORT
PIPE Z-4 SOUTH

DEPTH Feet	30-Oct-2018 MOISTURE %	13-Feb-2019 MOISTURE %	18-Jun-2019 MOISTURE %	6-Sep-2019 MOISTURE %
1	8.51	8.76	8.45	8.53
2	11.75	12.11	11.96	12.19
3	11.65	12.21	11.60	12.01
4	13.16	13.46	13.46	14.00
5	14.36	14.71	14.36	14.99
6	14.94	15.40	14.72	15.21
7	17.58	18.70	17.03	17.66
8	17.68	18.04	17.67	18.72
9	16.11	16.63	15.60	16.27
10	15.55	15.80	15.43	16.16
11	14.62	15.30	15.08	15.01
12	16.63	17.01	16.93	16.73
13	17.71	17.63	17.51	18.42
14	16.54	16.03	16.03	17.11
15	15.11	15.08	15.04	15.39
16	15.99	16.23	16.23	16.59
17	15.20	14.62	14.38	14.98
18	14.90	15.05	14.81	14.38
19	16.02	15.94	16.12	16.57
20	16.23	15.99	16.81	16.53
21	14.84	14.83	14.90	15.43
22	8.39	7.96	8.44	8.70
23	10.17	9.85	9.65	10.10
24	14.70	14.96	15.03	15.62
25	16.20	16.17	15.59	16.44
26	14.10	13.93	14.35	13.98
27	8.73	8.92	9.02	8.97
28	8.72	8.63	8.47	8.43
29	9.81	9.60	9.52	10.06
30	9.51	9.61	9.24	9.81
31	11.07	11.19	11.20	11.44
32	13.25	13.76	13.35	13.98
33	14.72	14.99	15.07	14.67
34	10.55	10.67	10.71	11.04
35	8.88	9.28	8.80	9.27

DESERT VALLEY COMPANY
VADOSE MOISTURE REPORT
PIPE Z-4 SOUTH

DEPTH Feet	13-Feb-2019 MOISTURE %	13-Feb-2019 MOISTURE %	18-Jun-2019 MOISTURE %	30-Oct-2018 MOISTURE %
36	7.36	7.94	7.24	7.76
37	7.53	7.94	7.94	7.96
38	6.76	6.96	6.70	7.18
39	7.49	7.49	7.14	8.23
40	8.88	8.91	8.77	9.27
41	6.90	7.05	6.52	7.33
42	6.25	6.55	6.29	6.51
43	10.06	10.10	9.97	10.04
44	10.70	10.80	10.50	11.19
45	11.40	11.75	11.29	12.10
46	12.18	12.57	13.28	12.82
47	17.17	17.45	17.38	17.75
48	16.74	16.97	17.25	17.18
49	13.78	13.61	13.56	13.77
50	0.04	-0.08	0.01	-0.02
51	-0.35	-0.53	-0.42	-0.23
52	1.08	1.36	1.10	1.26
53	4.77	5.19	4.42	4.55
54	6.57	6.57	6.50	6.75
55	5.99	6.28	6.05	6.25
56	6.95	7.05	7.16	7.26
57	6.95	7.13	7.12	6.94
58	7.17	7.26	7.08	7.37
59	6.68	6.74	6.92	7.56
60	6.97	6.69	6.69	7.22
61	7.22	7.29	7.18	7.89
62	7.86	7.87	7.44	7.70
63	8.43	8.62	8.58	8.75
64	9.04	8.95	8.96	9.23
65	13.30	13.54	13.28	13.46
66	20.51	21.05	20.91	20.96
67	17.08	16.78	17.09	17.36
68	14.64	15.06	14.58	15.79
69	13.41	13.73	13.63	14.44
70	27.18	27.38	27.24	28.58
71	30.52	30.43	30.30	31.56
72	25.27	25.81	25.26	26.16
73	23.19	24.89	23.83	25.24

DESERT VALLEY COMPANY
VADOSE MOISTURE REPORT
PIPE Z-5 NORTH

DEPTH Feet	31-Oct-2018 MOISTURE %	14-Mar-2019 MOISTURE %	14-Mar-2019 MOISTURE %	13-Sep-2019 MOISTURE %
1	4.83	7.39	4.40	4.03
2	8.34	8.53	8.29	8.67
3	13.94	13.78	13.91	14.51
4	15.18	15.29	14.79	15.31
5	16.03	15.50	15.52	16.22
6	18.00	17.67	17.52	18.19
7	17.76	17.84	17.72	18.64
8	18.28	17.31	17.50	18.35
9	17.57	17.30	16.52	17.35
10	19.00	18.72	18.99	19.50
11	18.69	18.18	18.56	19.14
12	18.07	17.58	17.67	18.61
13	14.64	14.98	14.90	15.23
14	13.86	14.00	13.85	14.18
15	12.36	12.18	12.07	12.59
16	16.40	15.93	15.75	16.30
17	14.38	12.20	14.29	14.99
18	13.78	14.00	13.67	14.38
19	17.23	17.31	17.22	17.37
20	13.94	13.86	13.93	14.36
21	9.07	9.18	9.24	9.63
22	8.95	8.98	8.98	9.15
23	9.33	9.10	9.26	9.94
24	8.23	8.17	8.43	9.05
25	8.05	8.21	7.85	8.42
26	9.26	9.41	9.59	10.18
27	8.78	9.09	9.37	9.23
28	8.48	8.30	8.25	8.81
29	8.03	7.83	8.26	7.90
30	8.49	8.89	8.56	9.21
31	7.19	7.12	7.34	7.35
32	8.15	7.94	7.71	8.14
33	18.36	18.49	18.43	18.68
34	15.50	16.01	15.83	16.66
35	11.62	11.47	11.24	11.11

DESERT VALLEY COMPANY
VADOSE MOISTURE REPORT
PIPE Z-5 NORTH

DEPTH Feet	14-Mar-2019 MOISTURE %	14-Mar-2019 MOISTURE %	14-Mar-2019 MOISTURE %	31-Oct-2018 MOISTURE %
36	11.75	12.21	11.54	12.10
37	9.36	9.33	9.33	9.39
38	8.01	8.25	7.95	8.56
39	6.71	6.67	6.59	6.97
40	9.49	9.57	9.42	9.91
41	14.96	15.47	15.43	15.79
42	18.26	17.74	18.27	18.90
43	15.46	15.59	15.40	16.73
44	19.18	20.00	20.59	20.82
45	15.88	16.56	17.10	17.15
46	10.06	10.45	10.03	10.40
47	17.63	18.04	18.07	18.00
48	17.36	18.04	18.39	18.57
49	19.20	20.48	20.24	21.17
50	22.14	22.76	22.69	23.38
51	22.59	22.95	21.82	22.28
52	18.96	19.25	18.67	19.55
53	18.06	18.69	18.29	18.89
54	17.14	17.56	17.37	19.06
55	21.54	21.63	21.64	21.95
56	21.33	21.25	20.94	22.18
57	20.86	21.23	21.11	21.48
58	21.27	21.14	21.52	21.43
59	26.37	26.16	26.98	27.12
60	24.89	26.21	25.64	26.10
61	24.67	25.62	25.02	25.56
62	25.04	25.27	25.12	25.15
63	25.78	26.18	25.32	26.22
64	24.96	25.34	24.98	25.71
65	23.08	23.35	22.53	23.53
66	23.70	23.66	23.75	23.99
67	25.46	26.17	25.93	25.80
68	25.40	26.54	26.22	26.42
69	26.66	26.84	26.57	26.71
70	37.13	37.89	37.12	38.99
71	40.92	41.77	41.30	41.76
72	40.25	41.33	40.61	41.75
73	35.90	36.45	36.70	38.38

DESERT VALLEY COMPANY
VADOSE MOISTURE REPORT
PIPE Z-6 NORTH

DEPTH Feet	31-Oct-2018 MOISTURE %	14-Mar-2019 MOISTURE %	19-Jun-2019 MOISTURE %	6-Sep-2019 MOISTURE %
1	2.61	2.99	2.93	2.89
2	7.40	7.06	6.68	7.26
3	9.54	9.89	9.79	10.01
4	11.88	12.23	11.71	12.76
5	12.64	13.26	13.10	13.93
6	17.40	17.00	17.27	18.63
7	15.95	15.51	15.33	16.91
8	16.09	16.06	16.33	17.60
9	17.70	18.46	17.83	19.42
10	17.02	17.38	16.87	18.71
11	19.20	19.91	19.33	20.34
12	19.63	19.62	18.76	19.82
13	13.08	12.95	12.92	13.76
14	13.66	14.04	13.31	13.90
15	11.30	11.39	11.04	12.18
16	13.65	14.15	13.58	14.24
17	12.87	12.65	12.90	13.34
18	14.80	14.71	14.70	15.68
19	14.74	14.60	14.50	15.35
20	13.72	13.31	12.60	13.85
21	11.01	11.34	10.71	11.50
22	11.65	11.60	11.80	11.72
23	4.10	4.50	4.25	4.93
24	3.56	3.63	3.11	4.04
25	4.52	4.69	4.55	5.39
26	5.35	5.42	5.27	5.71
27	4.41	4.88	4.41	4.96
28	5.76	5.76	6.08	6.03
29	2.03	2.56	2.40	2.46
30	4.13	3.88	4.11	4.37
31	6.13	6.65	6.15	7.38
32	11.83	12.83	11.70	12.86
33	18.63	19.13	18.83	19.17
34	13.37	13.94	13.17	14.09
35	8.35	8.89	8.66	8.34

DESERT VALLEY COMPANY
VADOSE MOISTURE REPORT
PIPE Z-6 NORTH

DEPTH Feet	31-Oct-2018 MOISTURE %	14-Mar-2019 MOISTURE %	19-Jun-2019 MOISTURE %	6-Sep-2019 MOISTURE %
36	8.32	8.54	7.77	8.89
37	13.73	13.71	12.77	14.13
38	10.00	10.22	9.81	10.83
39	6.60	6.73	6.36	6.86
40	11.02	11.90	11.10	11.25
41	18.95	18.85	18.31	19.17
42	12.19	12.46	12.26	12.33
43	10.68	10.46	10.83	10.81
44	18.71	18.47	18.40	18.95
45	8.57	9.10	8.76	9.42
46	17.19	17.66	17.73	17.84
47	24.61	22.69	24.41	25.07
48	23.84	24.11	23.65	24.69
49	24.61	25.54	24.53	26.28
50	23.97	24.53	24.54	25.66
51	18.21	18.58	18.70	19.45
52	17.20	17.46	17.45	18.67
53	25.71	25.89	25.70	27.00
54	26.07	26.80	26.14	27.67
55	27.14	26.93	27.24	27.45
56	26.30	27.21	27.02	27.51
57	26.72	26.20	26.80	26.90
58	26.21	26.44	26.23	27.25
59	27.22	27.46	27.24	28.55
60	27.02	27.67	26.95	27.28
61	28.21	28.60	28.45	28.91
62	26.96	26.95	26.78	27.47
63	24.93	24.65	25.21	26.31
64	24.96	25.29	25.02	25.88
65	22.77	23.39	22.41	23.75
66	24.52	24.31	24.37	25.23
67	26.33	25.55	26.66	26.15
68	26.19	26.70	26.02	26.06
69	29.38	29.29	29.66	29.33
70	33.13	34.23	33.46	34.77

DESERT VALLEY COMPANY
VADOSE MOISTURE REPORT
PIPE Z-7 WEST

	30-Oct-2018	13-Feb-2019	18-Jun-2019	12-Sep-2019
DEPTH Feet	MOISTURE %	MOISTURE %	MOISTURE %	MOISTURE %
1	5.53	6.97	5.60	5.49
2	8.94	8.96	9.01	8.70
3	9.93	10.23	10.32	10.33
4	11.17	11.02	11.31	11.44
5	12.60	12.60	12.55	13.15
6	12.56	12.52	12.68	12.97
7	12.86	12.80	12.72	13.11
8	12.11	11.77	11.45	12.23
9	12.91	13.10	13.05	13.58
10	13.18	13.20	13.15	13.63
11	14.91	15.10	14.61	15.25
12	15.23	15.07	14.69	15.57
13	12.96	13.25	12.93	13.43
14	14.14	13.98	13.67	14.21
15	14.00	14.33	13.88	13.98
16	14.33	14.81	14.44	14.49
17	13.98	14.08	13.93	14.42
18	14.39	14.83	14.46	14.74
19	14.71	15.02	14.71	15.29
20	11.23	11.32	10.97	11.68
21	10.95	10.75	10.66	10.99
22	8.37	8.24	8.44	8.73
23	8.09	8.31	8.15	8.47
24	8.71	8.78	8.44	9.12
25	9.55	9.66	9.43	9.72
26	11.19	11.49	11.59	11.93
27	8.36	8.47	8.76	8.76
28	7.23	7.26	7.45	7.48
29	9.37	9.43	9.35	9.36
30	9.07	9.61	9.06	9.55
31	7.97	8.26	7.85	8.20
32	7.47	7.66	7.52	7.88
33	8.46	8.47	8.31	8.50
34	10.31	10.24	10.19	10.68
35	7.34	7.46	7.29	7.63

DESERT VALLEY COMPANY
VADOSE MOISTURE REPORT
PIPE Z-7 WEST

DEPTH Feet	13-Feb-2019 MOISTURE %	13-Feb-2019 MOISTURE %	18-Jun-2019 MOISTURE %	30-Oct-2018 MOISTURE %
36	8.51	8.59	8.23	8.54
37	9.02	9.05	8.89	9.13
38	9.80	9.94	9.91	10.14
39	10.88	11.18	10.61	11.09
40	12.52	12.64	12.71	13.13
41	16.90	17.01	16.58	17.53
42	17.47	17.69	17.60	17.95
43	15.11	14.92	14.93	14.92
44	14.38	14.43	14.09	14.70
45	7.63	7.78	7.86	8.12
46	9.27	9.38	9.40	9.92
47	9.86	9.85	10.09	10.36
48	10.35	10.40	10.55	10.74
49	10.53	10.44	10.87	10.79
50	7.94	8.04	7.78	8.20
51	5.41	5.48	5.40	5.48
52	6.17	6.02	5.91	6.18
53	13.61	13.94	13.71	14.42
54	10.50	10.65	10.83	10.87
55	11.97	11.88	11.55	12.20
56	14.26	14.20	14.09	14.72
57	20.47	20.72	20.54	20.67
58	15.50	15.11	15.26	15.74
59	21.54	22.03	21.53	22.82
60	19.71	20.69	19.76	21.02
61	17.32	17.59	17.74	17.38
62	16.58	16.50	16.39	17.13
63	17.40	17.41	17.69	17.80
64	17.93	18.42	18.20	18.69
65	22.72	23.35	22.67	23.50
66	23.96	23.62	23.68	24.06
67	23.28	22.71	23.02	23.61
68	24.24	24.69	23.93	24.87
69	32.06	33.05	32.20	33.16

Attachment J

California Registered Professional Geologist Review



REVIEW OF MONITORING REPORT BY PROFESSIONAL GEOLOGIST

Waste Discharge Requirements
For
Magma Power Company, Owner
Desert Valley Company, Owner/Operator
Desert Valley Monofill Class II Solid Waste Management Facility
Northwest of Westmorland – Imperial County
Permit Dated June 30, 2016

Regional Board WDID No. 7A 13 2197 001
Board Order R7-2016-0016
Facility Name: Desert Valley Monofill

Terraphase Engineering (Terraphase) has reviewed the report, prepared by the Desert Valley Company, titled *Desert Valley Company Class II Solid Waste Management Facility, Quarterly Detection Monitoring Report for July – Sept 2019, Regional Board WDID No. 7A 13 2197 001, Board Order No. R7-2016-0016*. This report was prepared as required by Monitoring and Reporting Program (MRP) R7-2016-0016.

Based on Terraphase's inquiry of the person or persons who generated this report, the information, is to the best of Terraphase's knowledge, true, complete, and complies with Order No. R7-2016-0016.

October 30, 2019

A handwritten signature in blue ink that appears to read "Clare Steedman".



Clare Steedman, PG (9033)
Senior Associate Geologist
Terraphase Engineering, Inc.
Irvine, California